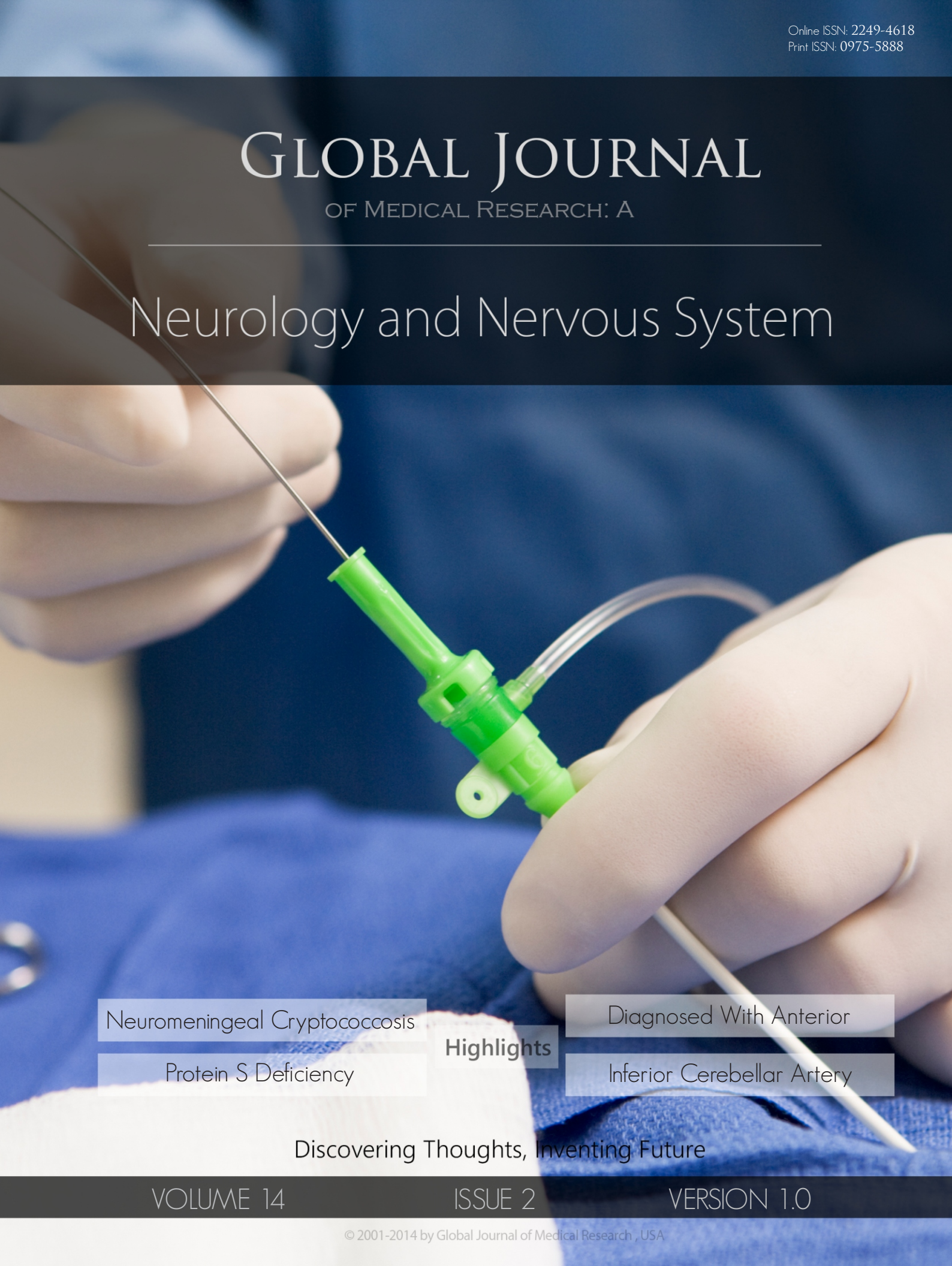
Online ISSN: 2249-4618
Print ISSN: 0975-5888

Global Journal

of Medical Research: A

Neurology and Nervous System



Neuromeningeal Cryptococcosis

Protein S Deficiency

Highlights

Diagnosed With Anterior

Inferior Cerebellar Artery

Discovering Thoughts, Inventing Future

VOLUME 14 ISSUE 2 VERSION 1.0

Global Journal of Medical Research: A
Neurology and Nervous System

Global Journal of Medical Research: A
Neurology and Nervous System
Volume 14 Issue 2 (Ver. 1.0)

Open Association of Research Society

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: Open Association of Research Society
Open Scientific Standards

Publisher's Headquarters office

Global Journals Headquarters
301st Edgewater Place Suite, 100 Edgewater Dr.-Pl,
Wakefield MASSACHUSETTS, Pin: 01880,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Including by Air Parcel Charges):

For Authors:
22 USD (B/W) & 50 USD (Color)
Yearly Subscription (Personal & Institutional):
200 USD (B/W) & 250 USD (Color)

Integrated Editorial Board
(Computer Science, Engineering, Medical, Management, Natural Science, Social Science)

Dr. Bart Lambrecht
Director of Research in Accounting and FinanceProfessor of Finance
Lancaster University Management School
BA (Antwerp); MPhil, MA, PhD (Cambridge)

Dr. Carlos García Pont
Associate Professor of Marketing
IESE Business School, University of Navarra
Doctor of Philosophy (Management), Massachusetts Institute of Technology (MIT)
Master in Business Administration, IESE, University of Navarra
Degree in Industrial Engineering, Universitat Politècnica de Catalunya

Dr. Fotini Labropulu
Mathematics - Luther College
University of ReginaPh.D., M.Sc. in Mathematics
B.A. (Honors) in Mathematics
University of Windso

Dr. Lynn Lim
Reader in Business and Marketing
Roehampton University, London
BCom, PGDip, MBA (Distinction), PhD, FHEA

Dr. Mihaly Mezei
ASSOCIATE PROFESSOR
Department of Structural and Chemical Biology, Mount Sinai School of Medical Center
Ph.D., Etvs Lornd University
Postdoctoral Training,
New York University

Dr. Söhnke M. Bartram
Department of Accounting and FinanceLancaster University Management SchoolPh.D. (WHU Koblenz)
MBA/BBA (University of Saarbrücken)

Dr. Miguel Angel Ariño
Professor of Decision Sciences
IESE Business School
Barcelona, Spain (Universidad de Navarra)
CEIBS (China Europe International Business School).
Beijing, Shanghai and Shenzhen
Ph.D. in Mathematics
University of Barcelona
BA in Mathematics (Licenciatura)
University of Barcelona

Philip G. Moscoso
Technology and Operations Management
IESE Business School, University of Navarra
Ph.D in Industrial Engineering and Management, ETH Zurich
M.Sc. in Chemical Engineering, ETH Zurich

Dr. Sanjay Dixit, M.D.
Director, EP Laboratories, Philadelphia VA Medical Center
Cardiovascular Medicine - Cardiac Arrhythmia
Univ of Penn School of Medicine

Dr. Han-Xiang Deng
MD., Ph.D
Associate Professor and Research
Department Division of Neuromuscular Medicine
Davee Department of Neurology and Clinical NeuroscienceNorthwestern University
Feinberg School of Medicine

Dr. Pina C. Sanelli
Associate Professor of Public Health
Weill Cornell Medical College
Associate Attending Radiologist
NewYork-Presbyterian Hospital
MRI, MRA, CT, and CTA
Neuroradiology and Diagnostic Radiology
M.D., State University of New York at Buffalo,School of Medicine and Biomedical Sciences

Dr. Roberto Sanchez
Associate Professor
Department of Structural and Chemical Biology
Mount Sinai School of Medicine
Ph.D., The Rockefeller University

Dr. Wen-Yih Sun
Professor of Earth and Atmospheric SciencesPurdue University Director
National Center for Typhoon and Flooding Research, Taiwan
University Chair Professor
Department of Atmospheric Sciences, National Central University, Chung-Li, TaiwanUniversity Chair Professor
Institute of Environmental Engineering, National Chiao Tung University, Hsin-chu, Taiwan.Ph.D., MS The University of Chicago, Geophysical Sciences
BS National Taiwan University, Atmospheric Sciences
Associate Professor of Radiology

Dr. Michael R. Rudnick
M.D., FACP
Associate Professor of Medicine
Chief, Renal Electrolyte and Hypertension Division (PMC)
Penn Medicine, University of Pennsylvania
Presbyterian Medical Center, Philadelphia
Nephrology and Internal Medicine
Certified by the American Board of Internal Medicine

Dr. Bassey Benjamin Esu
B.Sc. Marketing; MBA Marketing; Ph.D Marketing
Lecturer, Department of Marketing, University of Calabar
Tourism Consultant, Cross River State Tourism Development Department
Co-ordinator , Sustainable Tourism Initiative, Calabar, Nigeria

Dr. Aziz M. Barbar, Ph.D.
IEEE Senior Member
Chairperson, Department of Computer Science
AUST - American University of Science & Technology
Alfred Naccash Avenue – Ashrafieh

Contents of the Volume

Global Journal of Medical Research: a
Neurology and Nervous System
Volume 14 Issue 2 Version 1.0 Year 2014
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Neuromeningeal Cryptococcosis: A Fatal Disease in Tropical Practice

By Komi Assogba, Mofou Belo, Wateba Ihou Majeste, Berenger B. C Tsanga,
Damelan Kombaté & Koffi A. A. Balogou
University of Lomé , Togo

Abstract- *Background:* Neuromeningeal cryptococcosis (NMC) frequency has increased since the appearance of HIV/ AIDS infection with high mortality rate.

Objective: To assess the clinical and epidemiological features of the NMC in hospital field.

Materials and method: It was a retrospective study carried out on patients at 4 public health structures in the largest region of the country from 2009-2011. The mainly criteria were HIV+ conditions and the research of cryptococcus neoformans in CSF by Indiana ink test. The anthropometric, clinical, therapeutic and follow up data were also collected.

Results: The study covered 41,327 patients. HIV + patients were 18.52% (7653/41327). CSF was analyzed in 1758 with 978 samples from HIV+ subjects. The research of cryptococcus in CSF was performed in 19.40% (341/1758). It was positive in 2.35% (8 cases). Culture was negative for all patients.

Keywords: *neuromeningeal cryptococcosis, epidem-iology, clinical features.*

GJMR-A Classification : *NLMC Code: WW 400, WC 475*

Strictly as per the compliance and regulations of:

Neuromeningeal Cryptococcosis: A Fatal Disease in Tropical Practice

Komi Assogba [α], Mofou Belo [σ], Wateba Ihou Majeste [ρ], Berenger B. C Tsanga [ω], Damelan Kombaté [¥] & Koffi A. A. Balogou [§]

Abstract- *Background:* Neuromeningeal cryptococcosis (NMC) frequency has increased since the appearance of HIV/AIDS infection with high mortality rate.

Objective: To assess the clinical and epidemiological features of the NMC in hospital field.

Materials and method: It was a retrospective study carried out on patients at 4 public health structures in the largest region of the country from 2009-2011. The mainly criteria were HIV+ conditions and the research of cryptococcus neoformans in CSF by Indiana ink test. The anthropometric, clinical, the rapeutic and follow up data were also collected.

Results: The study covered 41,327 patients. HIV + patients were 18.52% (7653/41327). CSF was analyzed in 1758 with 978 samples from HIV+ subjects. The research of cryptococcus in CSF was performed in 19.40% (341/1758). It was positive in 2.35% (8 cases). Culture was negative for all patients. Hospital frequency was 0.02% and 0.10% in HIV+ patients. The incidence rate was 1.6. The average age was 36 years (28 and 45 years), including 5 men and 3 women. The principal symptoms were marked by fever (75%) and headache (62.5%), associated to oropharyngeal candidiasis in 37.50%. T-lymphocytes accounts means was 37.4 cells /mm^3.All patients were treated with fluconazole. The hospital length stay was 12.25 days. The mortality rate was 62.5%.

Discussion: NMC remains under estimate with non specific signs. Early diagnostic and rapid therapeutic approaches are the challenges to achieve for all neurologists in tropical setting.

Conclusion: We recommend to research cryptococcus in CSF forwards any meningo encephalitis in HIV infected patient.

Keywords: neuromeningeal cryptococcosis, epidemiology, clinical features.

I. Introduction

This paper deals with neuromeningeal location of *Cryptococcus neoformans* which is the most common in HIV/AIDS infection. It caused fatal meningoencephalitis in low income countries.[1] Its incidence varied from 5 to 10% in developed countries,[2,3] and 15-35% in central Africa.[1,4,5] The prevalence varied from 2.24 to 5.1% in Africa.[6-9] Clinical data show no specific clinical signs. Laboratory confirmation test is done by highlighting "*Cryptococcus neoformans*" in CSF by India ink.[8,10,11] In our developing countries cryptococcal meningitis is under diagnosed despite the high frequency of non-specific signs encountered in consultation, and the prevalence of HIV/AIDS. We aimed to study the epidemiological and clinical characteristics of neuromeningeal cryptococcosis.

II. Materials and Methods

This retrospective study was conducted in the departments of internal medicine, infectious diseases and neurology, and laboratories of the four major public hospitals of the region (Tokoin university hospital, Campus university hospital, Regional Hospital and District Hospital). These four sites were selected for their important capacity which is a total of 409 beds and the quality of the technical platform of their laboratory. This study focused on the analysis of recorded patients admitted between 1 January 2007 and 31 December 2011, and the positive of *Cryptococcus neoformans* in CSF. The main variables studied were formed by the epidemiological indicators (age, sex, incidence, frequency), clinical features (clinical signs and associated pathologies), routine analyzes (CSF, search of cryptococcus neoformans by staining the India ink and culture on Sabouraud medium, HIV status and CD4 count), therapeutic and progressive (disease duration before the consultation, hospitalization stay and the outcome). Physician in charge of the patient decided to perform or not CSF analysis, depending on clinical symptoms encountered. CSF study consisted of three phases namely cytology examination, direct staining India ink and the quantitative determination of proteins and glucose. The search of soluble antigens was not available. The determination of CD4 lymphocytes was performed by an automatic CD4counter. HIV serology was considered positive by the detection in serum of specific antibodies by both tests (ELISA I and II) and confirmatory test by Western Blot. The study of viral load was not available. CT scan was done for all patients, and shown diffuse cerebral edema with leptomeningeal contrast. All patients had provided informed consents and the study were approved by the local Ethics Committees.

III. Results

During the study period, 41,327 patients were hospitalized in all four hospitals involved in this study (table I). Seven thousands six hundred fifty-three patients or 18.52% (7653/41,327) were diagnosed with

Author α σ ρ ω ¥ §: Campus University Hospital/ university of Lomé/ togo. e-mails: seraphinassogba@yahoo.fr, abalogou@yahoo.fr, damelan03@yahoo.fr

HIV. CSF was analyzed in 1758 with 978 samples from HIV+ subjects. The incidence was highly variable from one year to the next with an average of 1.6 cases. The research of Cryptococcus was performed in 19.40% (341 cases). It was positive in 8 cases or 2.34%. The sex ratio was 1.67 (5/3) with an average age of 36 years and extreme of 28 to 45 years. Hospital prevalence of CNM was 0.02% and 0.10% in HIV+ patients. Fever (6/8), headaches (5/8) and impaired consciousness (4/8) were the most frequently encountered clinical signs. The oropharyngeal candidiasis (37.50%) were the main associated pathology. CSF was normal according to macroscopic and cytobacteriological criteria in 3/8cases and clear appearance in 6/8cases. Cytology was almost normal in all cases with 0 and 5 cells/mm^3. The culture was negative after 5 days for all patients. The average glucose and protein level was respectively 0.36 g / l (range 0.10 to 0.57 g / l) and 3.43 g / l (range 2.44 to 4.45g/ l). The CD4 + lymphocytes count ranged between 21 and 87 cells / mm^3 with an average of 37.4. The white blood cells count was normal in 3/4 cases and anemia with decreased hematocrit was present in all cases. All patients were treated with oral fluconazole or through a nasogastric tube in the event of loss of consciousness or swallowing. The injectable form was difficult to access. The mean duration of symptoms prior to consultation was 5.5 days with a range of 1-14 days. The average length of stay was 12.25 days with a range of 4 to 37 days. The outcome of hospitalization was marked by death for 5 patients and positive for 2 patients. Table II reports the clinical, biological and evolutionary description of cases of CNM observed during the study period.

IV. Discussion

The main concern of this paper had been a retrospective study consisted of the analysis of hospital recorded files in four public hospitals in the biggest region of the country. We encountered some difficulties such as patient's financial difficulties and poor access to care, which limited the sample size. In other words, this study is by no mans exhaustive and does not allow beforehand to assess the extent of cryptococcal meningitis in the general population in the community or at the national level. The limitation of the study was also that we were unable to assess all patients admitted for brain infection meningitis in the region. Finally, because we only included patients admitted to hospitals, we were unable to collect patients who could not afford hospital care or were more likely to attend basic clinic-type (Level 1) hospitals or traditional healers. These have been the bias in the recruitment of patients encountered in the retrospective studies. These findings may not reflect the real incidence and frequency of that disease. However, the consistency of our results with other studies provides some validity to the data.

Search for cryptococcal antigens soluble in blood and CSF were not made for technical shortcomings, which would have allowed us to approach the real frequency of further disease. Some studies, however, showed that the use of both tests the India ink and the search of soluble antigens did not reveal a significant difference in observed frequency. [5,9, 12] The average age was 36 years (range from 28 to 45 years). It is comparable to that reported in Morocco, Mali and Zambia which were respectively 32 years, 34 years (18-60 years) and 33 years (15 to 65). [13-15] The age of the young population slice is superimposed on the most affected by HIV /AIDS in our communities and is also the target of death.[13,16] We found a male predominance (M/F:1.67), as in most studies,[6,9,15] while HIV is feminized. Only 3.82% of patients (1578 /41327) underwent CSF examination and research of *cryptococcus neoformans* by the India ink was performed in 18.54% of cases. This rate of lumbar puncture seems as low as noticed Mbuagbaw et al.[6] This low rate may be due to limited technical tray and non-specific clinical signs of cryptococcal meningitis. Hospital frequency of CNM was 0.02% for all patients and 0.10% in HIV + patients. The incidence of cryptococcosis in Africa varies greatly by region, from 1.7% in Gabon to 94.6% in Ivory Coast. [5, 11, 12, 17, 18] The number of cases per year is highly variable from year to year and in the same region. The hospital incidence is 1.6 cases / year. This incidence is similar to that reported from Senegal, 2.9 cases/year [19] and below than the average from South Africa with 10.48 cases / year (range 1.6 to 230 cases / year).[13,14,20] The variable incidence rate are related to the ecological environment favorable or not, and the prevalence of HIV / AIDS in the studied region. The symptoms and signs most frequently encountered were fever (75%), headaches (62.50%) and impaired consciousness (50%), as reported by several studies. [7,10, 15, 21,22] These nonspecific signs may explain the low frequency and the lack of attention to asymptomatic neuromeningeal cryptococcosis in our regions. The search of cryptococcus in CSF depends on the physician appreciation concerning the patient clinical presentation.

Cryptococcus clinical presentation is really vague and no specific signs but in HIV condition the mainly symptoms were marked by fever, severe headaches and confusion or sometimes loss of consciousness. In case of tuberculosis, the evolution is sub acute and fever is fewer than 38.5°c follow by loss of body weight and rarely loss of consciousness. CSF is clear in both cases. CT scan imaging shows a diffuse edema in case of cryptococcus and granuloma as an abscess with large edema in case of bacterial or parasitary infection. The differential diagnosis is made by cytology examination of the granuloma.

Up on analyzing aspects, CSF was clear, it came up with 6/8 and troubles in two cases. The cell count was normal. The low glucose and high protein averages level in CSF were respectively 0.36 g / l and 3.43 g / l. Data from the literature confirm this fall in

predominance of low glucose / high protein level.[6] Depending on the degree of immunosuppression observed, the average CD4 count was 37.4 with a range of 21-87 cells/mm^3. The opportunistic nature of cryptococcosis was already known before the era of HIV/AIDS. A severe deficiency in cell-mediated immunity (CD4 count <100 cel/mm3) is often involved.[23] However, there are studies describing cases of CNM in immunocompetent patients without apparent risk factors.[24,25] The mean duration of symptoms prior to consultation was 5.5 days range 1 to 14 days but it was reported longer (22 to 27.24 days) in the literature.[12] The hospital stay ranged from 4 to 37 days with an average of 12.25 days. Our patients therefore consulted earlier than the other groups. The therapeutic management is done with fluconazole and amphotericin B. Fluconazole is the drug of choice used solely in almost all cases[,26] or associated with Flucytosin (5-FC).[26,27] Amphotericin B injection as flucytosine are difficult to access and use in our regions.[15,22] Treatment with fluconazole early undertake help patient to survive. The second condition is the early admission and quiet diagnostic. *These are some difficulties encountered in the treatment of NMC.*

The mortality rate was 62.5% (5/8). In sub-Saharan Africa, the mortality rate varies from 28.5 to 71.1% with an average of 45.9%. The survival median ranged between 10 and 26 days (range 1-164 days) according to several authors. [9,13,16] NMC remains a fatal disease in our region in HIV setting.

V. Conclusion

Neuromeningeal cryptococcosis is under diagnosed because of its deceptive symptomatology and lack of technical facilities. It affects a young population, severely immune compromised HIV male with limited income. Then it is a real diagnostic and therapeutic challenge for this disease which remains bonded to a high mortality rate in our region.

VI. Acknowledgment

No acknowledgment permission form needed to declare. No source of founding or grant to declare.

References Références Referencias

1. Laroche R, Deppner M, N'Dabane Z. La cryptococcose à Bujumbura (Burundi) à propos de 80 cas observés en 42 mois. Med. Afr. Noire 1990; 37: 588-91.
2. Brian P, Currie M, Casadevall A. Estimation of prevalence of cryptococcal infection among patient infected with the HIV in New-York city. Clin Infect Dis 1994; 1 9: 1029-33.
3. Bodasing N, Seaton RA, Shankland GS, Kennedy D. Cryptococcus neoformans var. gattii meningitis in an HIV-positive patient: first observation in the United Kingdom. J Infect.2004; 49:253-5.
4. Muyembe TJJ, Mupapap KD, Luki N, Ngwala BD, Tonduanda K, Izzia KW et al. Cryptococcose à Cryptococcus neoformans var gattii : à propos d'1 cas associé au syndrome d'immunodéficience acquise (SIDA) à Kinshasa (Zaïre). Med Trop 1992;52:435-8.
5. Bissangnene E, Ouhon J, Kra O, Kadio A. Aspects actuels de la cryptococcose neuroméningée à Abidjan. Med Mal Infect. 1994;24:580-5.
6. Mbuagbaw JN, Biholong NP, Njamnshi AK. La cryptococcose neuroméningée et l'infection au VIH dans le service de médecine du centre hospitalier et universitaire de Yaoundé-Cameroun. AJNS, 2006;25:13-20.
7. Ki-Zerbo G, Sawadogo A, Millogo A, Andonaba JB, Yameogo A, Ouedraogo I et al. La cryptococcose neuroméningée au cours du SIDA: étude préliminaire à l'hôpital de Bobo-Dioulasso (Burkina Faso) Méd. Afr. Noire 1996; 43:13-8.
8. Sow PS, Diop BM, Dieng Y, Dia NM, Seydi M, Dieng T, Badiane S et al. Cryptococcose neuroméningée au cours de l'infection à VIH à Dakar. Med. Mal. Infect.1998; 28: 511-15.
9. Bogaerts J, Rouvroy D, Taelman H, Kagame A, Aziz MA, Swinne D et al. AIDS-associated cryptococcal meningitis in Rwanda (1983-1992): epidemiologic and diagnostic features. J. Infect.1999;39:32-7.
10. Kwon-Chung KJ, Sorrel TC, Dromer F, Fung E, Levitz SM. Cryptococcosis: Clinical and biological aspects. Med. Mycol.2000;38:205-13.
11. Woldemanuel Y, Haile T. Cryptococcosis in patients from Tikur Anbessa Hospital, Addis-Abeba, Ethiopia. Ethiopian Medicine Journal 2001; 39: 185-92.
12. French N, Gray K, Watera C et al. Cryptococcal infection in cohort of HIV-1-infectecd Ugandan adults. AIDS 2002;16:1031-8.
13. Mwaba P, Mwansa J, Chintu C. Clinical presentation, natural history, and cumulative death rates of 230 adults with primary cryptococcal meningitis in Zambian AIDS patients treated under local conditions. Postgrad. Med. J.2001;77:769-73.
14. Aoufi S, Agoumi A, Seqat M. Cryptococcal neuromeningitis in immunosuppressed subjects at Rabat University Hospital (Morroco). Ann. Biol. Clin. (Paris).2008; 66:79-81.
15. Oumar AA, Dao S, Ba M, Poudiougou B, Diallo A. Aspects épidémiologique, clinique et pronostique de la cryptococcose neuroméningée en milieu hospitalier à Bamako, Mali. Rev. Med. Brux. 2008;29:149-52.
16. Balogou AAK, Volley KA, Belo M, Amouzou MK, Apetse K, Kombate D et al. Mortalité des patients

VIH-positifs dans le service de neurologie du CHU-Campus de Lomé-Togo. AJNS 2007;26:95-101.
17. Bisson GP, Lukes J, Thakur R, Mtoni I, MacGregor RR. Cryptococcus and lymphocytic meningitis in Botswana. S Afr.Med. J.2008;98:724-5.
18. Okome-Nkoumou M, Mbounja-Loclo ME, Kombila M. Panorama des infections opportunistes au cours de l'infection par le VIH à Libreville, Gabon. Cahiers Santé 2000;3: 329-37.
19. Soumare M, Seydi M, Ndour CT, Dieng Y, Diouf AM, Diop BM. Aspects actuels de la cryptococcose neuroméningée à Dakar. Med Trop 2005; 65: 559-62.
20. Park BJ, Wannemuehler KA, Marston BJ, Govender N, Pappas PG, Chiller TM. Estimation of the current global burden of cryptococcal meningitis among persons living with HIV/AIDS. AIDS.2009;23:525-30.
21. Soumare M, Seydi M, Ndour CT, Dieng Y, Ngom-Faye NF. Les méningites à liquide clair chez les patients infectés par le VIH à Dakar. Bull. Soc. Pathol. Exot.2005; 98:104-7.
22. Millogo A, Ki-Zerbo G-A, Andonaba JB, Lankoande D, Sawadogo A, Yameogo I et al. La cryptococcose neuroméningée au cours de l'infection par le VIH au Centre hospitalier de Bobo-Dioulasso (Burkina Faso). Bull. Soc. Pathol. Exot. 2004;97:119-21.
23. Kisenge PR, Hawkins AT, Maro VP, Michele JP, Swai NS, Mueller A et al. Low CD4 count plus coma predicts cryptococcal meningitis in Tanzania. BMC Infect.Dis.2007;7:39-43.
24. Ndiaye M, Soumaré M, Mapoure YN, Seydi M, Sène-Diouf F, Ngom NF et al. Cryptococcose neuroméningée chez des patients apparemment non-immunodéprimés: à propos de 3 cas à Dakar, Sénégal. Bull. Soc. Pathol. Exot. 2008;101:311-3.
25. Bretaudeau K, Eloy O, Richer A, Bruneel F, Scott-Algara D, Lortholary O et al. Cryptococcose neuroméningée chez un sujet en apparence immunocompétent. Revue neurologique 2006; 162:233-7.
26. Collett G, Parrish A. Fluconazole donation and outcomes assessment in cryptococcal meningitis. S Afr. Med. J.2007; 97: 175-6.
27. Longley N, Muzoora C, Taseera K., Mwesigye J, Rwebembera J, Chakera A et al. Dose response: effect of high-dose fluconazole for HIV-associated cryptococcal meningitis in southwestern Uganda. Clin. Infect. Dis.2008;47:1556-61.

Tables

Table 1 : Recapitulative of data collected from hospitals center

	Number (n) of beds	Patients (n)	HIV+ (n)	CSF tested (n)
TOKOIN - UTH*	281	27605	6174	1253
CAMPUS- UTH	77	7560	743	366
DHB †	36	4872	508	97
RHL‡	15	1290	228	42
Total	409	41327	7653	1758

*Legend: *UTH: University teaching hospital; †DHB: District hospital of Bè; ‡RHL: regional hospital of Lomé*

Table 2 : Description of clinical, biological and evolution cases of NMC

N°	Sociodemographic data	Clinical features	CSF analysis	CD4 count (cel/mm^3)	Evolution (days)
1	42 years Female Saler	Symptoms lasting over 3 days ; headaches, fever, nausea, vomit, unconsciousness, general body state altered	Clear 5 elements Glu[1]=0,13g/l Prot[2]=1,44g/l	40	Deceased after 5 days
2	45 years Male Solder Married	Symptoms lasting over2 days ; headaches, fever, convulsions or seizures	Trouble 4 elements Glu[1]=0,15g/l Prot[2]=2,65g/l	21	Deceased after 4 days
3	28 ears Female Household wife Married	Symptoms lasting over 5 days; general well being altered, digestive Candidosis, chronic diarrhea, tuberculous	Clear 0 elements Glu[1]=0,20g/l Prot[2]=1,64g/l	12	Deceased after 6 days
4	33 years Male Public employee Married	Symptoms lasting over1day ; headaches, altered of conscience, meningeal signs, agitation, Sarcoma of Kaposi	Trouble 0 element Glu[1]=0,25g/l Prot[2]=2,69g/l	87	Improved after 37 days

5	38 years Male SOTOTOL employee Married	Symptoms lasting over 5days; headaches, fever, nausea, vomit, digestive candidiasis, altered of conscience and general well being	Clear 0 element Glu[1]=0,10g/l Prot[2]=4,45g/l	18	Improved after 13 days
6	40 years Male Trader Married	Symptoms lasting over 7days ; violent headaches, fever, vomit, chronic diarrhea, focal deficits	Clear 3elements Glu[1]=0,21g/l Prot[2]=3,25g/l	21	Discharged after 12 days
7	30 years Female housewives Married	Symptoms lasting over 14 days; fever, digestive candidosis, focal deficits, unconsciousness, diffuse cerebral oedema	Clear 5 elements Glu[1]=0,17g/l Prot[2]=4,13g/l	16	Deceased after 10 days
8	32 years Male Police officer Married	Symptoms lasting over7days; fever, meningeal signs, headache ocular cytomegalovirosis	Clear 0 element Glu[1]= 0,15g/l Prot[2]=2,35g/l	56	Deceased after 11 days

Legend: [1]glucose, [2]total proteins, d = day, cel=cell, CSF= cerebrospinal fluid, NMC= neuromeningeal cryptococcosis, g/l= gramme/liter

This page is intentionally left blank

Global Journal of Medical Research: a
Neurology and Nervous System
Volume 14 Issue 2 Version 1.0 Year 2014
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Introduction to Raksanizer: The Quantum Biological Future of Neurogenesis

By Abhijit Naskar

Abstract- Since the beginning of human history, mankind has been asking a very simple question, "what is mind?. As humans developed in the path of science and philosophy, this question became more and more complex with thousands of other doubts and confusions emerging from it. Back in the days, when humanity had just discovered fire, if somebody behaved unnaturally or crazy, collective ignorance defined it as some supernatural possession. Even today, to our disgrace, this ignorance runs through the profound and remote veins of many civilizations. But, thinkers throughout history dared to ask questions to unfold these mysteries of human behavior. Freud and Breuer took a step further in the clandestine arena of human mind, by finding out jewels of facts behind Hysteria. Following the footsteps of Freud, another man named C.G. Jung, made us more aware about the truth behind the most subtle acts of human psychology. On the pillars of all these rising knowledge, modern neurology became far more delicate and sophisticated, shedding light over different dark regions of the brain.

Keywords: *mind, possession, behavior, freud, breur, hyteria, C. G. jung, geomagnetic disturbance, seizures, epileptic, electromagnetic radiation, raksanizer, quantum biology.*

GJMR-A Classification : *NLMC Code: WW 400, WC 475*

Strictly as per the compliance and regulations of:

Introduction to Raksanizer: The Quantum Biological Future of Neurogenesis

Abhijit Naskar

Abstract- Since the beginning of human history, mankind has been asking a very simple question, "what is mind?. As humans developed in the path of science and philosophy, this question became more and more complex with thousands of other doubts and confusions emerging from it. Back in the days, when humanity had just discovered fire, if somebody behaved unnaturally or crazy, collective ignorance defined it as some supernatural possession. Even today, to our disgrace, this ignorance runs through the profound and remote veins of many civilizations. But, thinkers throughout history dared to ask questions to unfold these mysteries of human behavior. Freud and Breuer took a step further in the clandestine arena of human mind, by finding out jewels of facts behind Hysteria. Following the footsteps of Freud, another man named C.G. Jung, made us more aware about the truth behind the most subtle acts of human psychology. On the pillars of all these rising knowledge, modern neurology became far more delicate and sophisticated, shedding light over different dark regions of the brain. Now, we know that there's no supernatural impact upon abnormal human behavior or instability of mind. If there's anything closely real and scientific to the term "supernatural", it is "natural impact", for nature makes a huge impact on the mind and molecules of every living being. This phenomenon becomes more evident when there occurs a geomagnetic disturbance on planet earth. There have been reports of an increased frequency of seizures in epileptic patients during geomagnetic disturbances. Since the dawn of mankind, the geomagnetic fields have been interacting with each brain on mother earth, thus making it vulnerable and sensitive to different kinds of electromagnetic radiation. This gives us an evolutionary advantage in developing a cure for the cruel and sometimes clandestine diseases of human mind or the entire Nervous System. Utilizing the basic electromagnetic link between the characteristics of mother nature and man, a device is being developed by me, named "Raksanizer", which begins its journey with curing neural degenerative diseases, while opening a gateway for the advent of an emerging field of science – Quantum Biology.

Keywords: mind, possession, behavior, freud, breuer, hyteria, c. g. jung, geomagnetic disturbance, seizures, epileptic, electromagnetic radiation, raksanizer, quantum biology.

I. Introduction

The entire human anatomy is a living tranceiver and the most delicate one too. The electrical and electronic signals within the living system are tuned to perfection by mother nature. Each molecule has its electromagnetic signature. Each molecular interaction and each physiological process generates fields as well. All of these fields are compatible with our beloved planet earth. In healthy tissues interferences and incompatibilities do not occur. Each heartbeat, each breath, each emotion generates characteristic electromagnetic fields that travel through the living matrix to neighboring cells and tissues. This gives birth to a magical intricate web of coordination and harmony. And whenever problems and disruptions arise in this intricate web in the form of diseases, delicately designed forms of subtle Electromagnetic Radiation can induce and restore order inside the living system at a molecular level.

To begin with external Electromagnetic Radiation Induction upon the Central Nervous System (CNS) let's look into the evolutionary background of mankind by means of geomagnetic impact over the human body. The human species has been and continues to be immersed within the earth's magnetic field. Its general intensity averages around 50,000 nT (0.5 gauss) with a discrepancy of approximately a factor of 2 to 3 between the equatorial and polar regions. Living areas above large aggregates of near surface magnetized minerals, such as the Kursk anomaly in the Ukraine, are about 4 times the average intensity. Geomagnetic fluctuations, primarily from alterations in solar activity mediated by changes in the velocity and density of particles in the interplanetary magnetic field (the "solar wind"), are one-thousandth to one hundredth of this steady-state intensity. The durations of these fluctuations are in the order of minutes with median ranges of intensity in the order of 50 to 1000 nT. This ratio is comparable to the differences in magnitude between the steady-state potential differences (~10 to 20 mV) between the rostral and caudal distances of the human cerebrum and the primary time-varying, extremely low frequency fluctuations measured over the cerebral cortices. The majority of the power within this extremely low frequency band is between 1 and 40 Hz with peak to peak magnitudes between 10 and 200 μV. Conventional measurements by modern quantitative electroencephalographic (QEEG) technology usually range from 1-10 μV/H. Increases in indices of global geomagnetic activity, particularly when disturbances exceed about 25 nT, have been associated with increased incidence of epileptic seizures, unusual nocturnal experiences, and subsequent alterations in behaviors within vulnerable populations. The following list includes a few instances of the enormous documented literature on this matter.

Author : Inventor, Independent Research Scientist, Kolkata, India.
e-mail: victornskr@gmail.com

- Cardiovascular problems (Bellossi et al 1985; Watanabe et al 1994; Stoupel et al 1993, 1994, 1995; Knox et al 1979)
- Seizures, epilepsy, convulsions (Stoupel et al 1991; Mikulecky et al 1996; Persinger and Psych 1995)
- Hypothermia (Bureau et al 1996)
- Headache (De Matteis et al 1994)
- Vestibular problems (Persinger & Richards 1995)
- Bacterial growth (Polikarpov 1996)
- Intraocular pressure (Stoupel et al 1993)
- Death (Lipa et al 1976; Stocks 1925)

In addition, a variety of behavioral changes have been noted

- Crime (Chibrikin et al 1995)
- Aggression (St Pierre & Persinger 1998)
- Depression (Kay 1994)
- Loss of attention and memory (Tambiev et al 1995)
- Accidents (Grigor'ev 1995)

Experimental simulations of the intensity and temporal shapes of geomagnetic activity in the laboratory produce comparable changes. Recently Mulligan *et al* in Canada replicated the results of Babayev and Allahveriyeva in Azerbaijan, that changes in cerebral power as measured by QEEG occurred during increases in geomagnetic activity above 25 to 30 nT. The most consistent, moderate strength correlations were evident for theta (4 to 7 Hz) and gamma (35 to 45 Hz) frequency bands over the right frontal lobe. However the cerebral changes associated with geomagnetic activity are transient. Most of the biological time the human species is continuously exposed to the more or less "steady-state" or static component of the earth's surface magnetic field. This simultaneous immersion of about 6 to 7 billion human brains, which are effectively very similar semiconducting microstructures within this magnetic field, would be sufficient to produce a secondary field that might have biological implications for survival and adaptation. This secondary field could display emergent properties with qualitatively different characteristics. Thus, applying another secondary flux field to the biomagnetic field of the human physiology it is possible to induce an adaptive healing characteristic inside the brain and the entire CNS to regenerate new pathways of neurosynaptic network, which eventually leads to the cure for all neural degenerative disorders.

II. Developmental Background of Raksanizer by Means of Geophysical Impact upon Cerebral Activity

Now we'll enter the mysterious gateway of mother nature's scientific wonders and hunt down the elixir to the cure for the degenerative disorders of the nervous system. About 2500 years ago Hippocrates recognized the significance of the weather and climate on living systems. In the 20th century, the relation between natural electromagnetic rhythms and living systems were explored in the pioneering work of Harold Saxton Burr and his colleagues at Yale University School of Medicine. Life on earth is not isolated from the rest of the universe, but is susceptible to the forces extending across vast distances of space. The fields within the human bodies are inevitably affected by the larger fields of the planet and other celestial bodies. The mechanisms involved are not mystical or obscure – they involve well-documented pathways of interactions. For instance, the cycles of the moon cause changes in ionospheric currents and geophysical fields which in turn influence the fields within us.

The masses of the earth (5.98·10^24 kg) and the moon (7.34·10^22 kg) compared to the mass of a single mammalian cell (~10^-13 kg) would seem extraordinarily too disproportional to be related. Although the gravitational force between these two major bodies is known to produce tidal forces that affect the height of oceans as a dynamic (rotational) process, the gravitational forces between the mass of cells in organisms and the earth have been assumed to be too minimal to be relevant. Yet intrinsic ~28 day periodicities in many living systems have been documented and may be even emerge following brain injury. That lunar phase affects the movement of different classes of vertebrates which can be modified by applied weak (~10^-4 T) horizontal static magnetic, fields was elegantly explored by Brown. The gravitational force between the mass of an average mammalian cell and the earth is in the order of a picoNewton. When applied across the plasma membrane the energy is within the domain of 10^-20 J that is associated with the distance between forces of ions that are correlated with the membrane potential. Solutions for velocity and acceleration are congruent with known properties of the ion channel and cell membrane. The differences in gravitational forces between lunar perigee and apogee are within the 10^-20 J range when applied across distances that constitute neural processes. Calculations of the ratio of gravitational force to a specific range of intensities of rotating experimental magnetic fields produce equivalent electric dipole moments (A·m) that are within the same order of magnitude as that measured for single post-synaptic potentials (Michael A Persinger 2014). The role of gravitational forces and the corresponding magnitudes of energies during evolution upon the physical constraints of the cell and membrane function may be more important than traditionally considered. The emergence of the basic bioquantum unit of 10^-20 J when the gravitational force between the masses of the earth and a typical cell was applied across the plasma cell membrane could reflect the origin of this biological boundary as well as a yet to be determined role of gravitational energy in cell function. Hence 10^-20 J would be the very root of a newly

emerging field of science – Quantum Biology, which will quite delicately and eloquently explain the intricate network of all biological systems. This gravitational constraint upon biological systems because they emerged on this planet could significantly influence the adaptation of any terrestrial life forms during maintained planetary exploration or maintained presence on worlds with markedly different masses.

Quantitative solutions indicated that the intensity of the "transcerebral" field produced from all human brains within the geomagnetic field is the same order of magnitude as the values associated with cognitive processes and altered expressions of proteins within the individual brain. This convergence could meet one of the criteria for a holographic-like phenomenon. The transition from 6 to 8 billion brains would be associated with shared energies within individual cerebral space whose frequencies increase across the visible electromagnetic wavelength from infrared to ultraviolet. Magnetic diffusivity indicates all brains could be influenced within about 10 minutes. The application of weak, complex magnetic fields through the cerebral hemispheres elicits experiences of a "sensed presence" or "sentient being" in normal people. Michael A. Persinger of the Laurentian University, Canada has hypothesized these experiences are the awareness of the right hemispheric equivalent of the left hemispheric sense of self and may be the prototype for the god experience. Experimental results and clinical measurements have supported this contention. One of the fundamental principles of behavioral neuroscience is that all experiences are generated by or correlated with brain activity. This activity is determined by the microstructures within the brain and the patterns of electromagnetic and chemical activity within and between these structures. Structure dictates function and microstructure dictates microfunction. There are several important extensions of these principles. The first is that all experiences are responses that must be evoked by physical events or stimuli. However the events that function as stimuli are only an extremely small subset of the myriad events within the environment. The principles indicate that all experiences, from the awareness of the sense of self, to the feelings of love, to the presence of God, emerge from brain activity. Once we can isolate the controlling stimuli that evokes an experience or furthermore induces specific brain activity, then any biological experience including God experience would be subject to experimental verification and reproduction within laboratory and even in the household. The human mind can be programmed in such way that it can experience the sentient being at any place. Even induced ubiquitous genetic changes, shared modifications in protein sequences associated with memory during REM sleep, and limitations upon the proliferation of the species are plausible.

III. Promising Nature of Neural Stem Cells in the Way to Neurogenesis

Now digging deeper into the pathway of inducing neurogenesis I shall introduce the most crucial cells for this regeneration process – the neural stem cells. Neural stem cells self-renew and give rise to neurons, astrocytes and oligodendrocytes. These cells hold great promise for neural repair after injury or disease. One of the fundamental concepts of neural repair lies in the replacement of cells that are lost as a result of disease or injury. Numerous investigators have used a variety of means to replace cellular elements in the brain, including transplantation of fetal tissue, primary cells derived from a number of different structures and transformed or genetically engineered cell lines. With each of these modalities numerous problems exist, including access to sufficient numbers of cells, lack of specificity of the repair strategy, immunologic rejection, and, most importantly, lack of efficacy. The discovery of neural stem cells, however, has led to a renewed hope in cellular replacement in the CNS after stroke or other insult, like the degenerative state of Amyotrophic Lateral Sclerosis, Parkinson's, Alzheimer's etc. For a number of years, it was held that there was no neurogenesis in the adult vertebrate brain. The studies of Nottebohm and colleagues demonstrated that adult male songbirds had a robust period of neurogenesis during the spring mating season. As early as 1969, neurogenesis in the adult rodent olfactory bulb was described, with confirmation of this work published in 1977, although these studies were largely ignored. However, in 1993 the studies of Luskin-Lois and Alvarez-Buylla and colleagues clearly demonstrated that the ongoing proliferation of cells in the adult rodent subventricular zone (SVZ) resulted in new neurons within the olfactory bulb. Although not completely proven, current theory holds that within the adult SVZ, a relatively quiescent stem cell gives rise to rapidly proliferating progenitors, which then ultimately give rise to neural precursors that migrate into the olfactory bulb to form granule cells and some periglomerular interneurons. In addition to the olfactory bulb, new neurons are formed in the adult mammalian hippocampus where new dentate gyrus granule cells are regularly added. One of the most important aspects of neural stem cells is their choice of cell fate. Rakshanizer's complex electromagnetic radiation (EMR) forms call for the replacement of specific cell types, such as dopaminergic neurons for Parkinson's, glutamatergic neurons for stroke, and oligodendrocytes for demyelinating disease or spinal cord injury. With properly generated minuscule and complex forms of EMR it is possible to push the reset button within the CNS which will trigger the neurogenesis, defining the fate of the neural stem cells in vitro. This way, as new neural pathways completely

replace the old damaged ones, the highway for the afferent and efferent signal transfer gets to working condition again. Thus any kind of neural disorder caused by damaged or disrupted neural circuitry, achieves a healthy network of signal transfer, which means signals from the CNS can again start to reach every corner of the human body and vice versa without any further disruption. The simplest symptom of the recovery would be healthy motor and sensory activity.

IV. Raksanizer's Impact upon Cns

Biological systems completely defy a simple and obvious logic ; larger stimuli should produce larger responses. In living systems weak and subtle fields have potent effects, while there may be little or no response to strong fields. Here intensity doesn't matter, what carries weight, is delicately designed complex fusion of electromagnetic radiation, that'll reinstate the neurogenesis. Unlike the tradition in biophysics to study the effects of magnetic stimulation by employing the simplest of shapes of fields, complexity and information within these fields are more important than their intensity. If one wanted to study the function of the arrangement of molecules upon biological systems, the selection of two molecules of hydrogen and one of oxygen, because "it's simple", would not have permitted the discovery of the unique properties of proteins or nucleic acids. Hence a miraculous mixture of electromagnetic radiation forms at different frequencies, for instance magnetic field, visible light, sound and many others shall be induced throughout the entire CNS by the device Raksanizer in vitro and as a result it'll lead to an amazing rate of neurogenesis making all the degenerative symptoms disappear. proteins or nucleic acids

V. Summary

The present time is an intensely crucial period for science and civilization. In the last several decades, modern science has transcended to extent beyond human imagination. Due to the Large Hadron Collider we are finding out crucial secrets of genesis of the universe. Quantum physics has thrown us into the arena of advanced races of the cosmos. As Quantum physics is constantly unmasking the material world of the cosmos, the emerging field of Quantum Biology is in its early phase of enlightening the humanity about the true energetic nature of all the living systems on planet earth and beyond. Raksanizer will enable quantum biology to get inside human nervous system and repair the damaged parts of the intricate web of the living system. It'll make human mind much more aware of its surroundings and less anxious in disturbing situations of life. In the coming few decades with more research and development, Raksanizer will also give a human mind the access to the emotions of another beloved mind thousands of miles away at another corner of planet earth.

References Références Referencias

1. Studies in Hysteria, Sigmund Freud and Joseph Breuer
2. On the nature of the psyche, Carl Gustav Jung
3. Michael A. Persinger, 2003, 2013, 2014
4. Harley I. Kornblum, Introduction to Neural Stem Cells 2007
5. James L. Oschman, Energy Medicine The Scientific Basis, 2000
6. Richard Alan Miller and Iona Miller, The Schumann"s Resonance and Human Physiobiology, 2003
7. Richard S. Snell, Clinical Neuroanatomy, 2010

Global Journal of Medical Research: a
Neurology and Nervous System
Volume 14 Issue 2 Version 1.0 Year 2014
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Protein S Deficiency and Ischemic Stroke

By Komi Assogba, Mofou Belo, Kossivi M Apetse, Lantam Sonhaye & Koffi A. A. Balogou
University of Lomé , Togo

Abstract- The protein S deficiency is an ischemic stroke main risk factor in black young people. The authors report three patients of 37, 45 and 56 years old of age who presented ischemic stroke with hemi body deficit (two lefts and one right). No personal or family history of any cardiovascular diseases and risk factor were found except protein S deficiency with 15%, 22% and 32%. One died at eight months later of follow up by stroke relapse, the second had completely health recovery after six months, and the third patient remained with partial paralysis. The research of protein S deficiency must be born in mind in patient with ischemic stroke if any other risk factor was not found.

GJMR-A Classification : NLMC Code: WL 140

Strictly as per the compliance and regulations of:

Protein S Deficiency and Ischemic Stroke

Mofou Belo [α] Komi Assogba [σ], Kossivi M Apetse [ρ], Lantam Sonhaye [ω] & Koffi A. A. Balogou [¥]

Abstract- The protein S deficiency is an ischemic stroke main risk factor in black young people. The authors report three patients of 37, 45 and 56 years old of age who presented ischemic stroke with hemi body deficit (two lefts and one right). No personal or family history of any cardiovascular diseases and risk factor were found except protein S deficiency with 15%, 22% and 32%. One died at eight months later of follow up by stroke relapse, the second had completely health recovery after six months, and the third patient remained with partial paralysis. The research of protein S deficiency must be born in mind in patient with ischemic stroke if any other risk factor was not found.

I. Introduction

Stroke constituted the principal causes of hospitalisation in African neurological unit. The ischemic strokes are more frequent than haemorrhage, 63% to 80.9%,[1-3], with high frequency of multiples infarcts, 13.50% and leucoaraiosis, 58.75%.[2] The main risk factors were high blood pressure, heart diseases, diabetes, infectious and other indeterminate causes. Since the discovered of the protein S, many last studies established it's implication in thrombotic states. The hereditary protein S deficit was found in 12.4% and acquired in 21.5%. Recently, the deficit on fibrinolysis factor or coagulation inhibitor (proteins S and C) were found as the important aetiology of ischemic stroke in young people, with frequency range from 13.8% to 16%.[4-6] The authors reported three ischemic strokes with protein S deficiency as the only risk factor in African young people. All patients and their relatives have given informed consent. The study was approved by the local ethic committee. Table I show the patients clinical characteristic

II. Observation

a) Case 1

A 37 years old trader woman with a long personal history of left leg stepped and lameness a year ago due to intramuscular injection came to our visit because of weakness of half right body. Her waist was 1,64m with 60 Kg of weight. The neurological exam revealed half right paresis with 3/5 muscular force in leg and 4/5 in arm, with hyper reflexivity, and Babinski sign. None body sensibility disturbance was noted. All routine blood analysis was normal except low protein S with 15% (normal: 80-130%). Hearts recording and ultrasonic exam were normal. Ct-scan showed left fronto parietal hypo density directed to ischemic stroke. No other risk factor was found. The patient received enoxaparin 0.6mlx2/day, relieved by salicylic acetyl acid 250 mg/day and daily kinesitherapy. After three months of treatment a slight regression of neurologic symptoms was noted with Rankin scale at 2/6. At eight months later the patient died by stroke relapse.

b) Case 2

A 45 years old man, with no cardiovascular diseases diagnosed beforehand and other stroke risk factor came to our visit because of rapid left half body deficit and dysphasia. He weighed 70 kg for 1,72m of size and 140/90 mmHg of blood pressure after several controlled. Neurological examination revealed left hemi body palsy. The left reflexes were low with Babinski sign, right half body sensibility was normal. All *routine* blood analysis were normal except low protein S at 22% (normal: 80- 130%). Doppler of supraaortic trunk, electrocardiogram and heart ultrasonic recording were normal. Ct-scan and MRI revealed right internal capsule and lenticular nucleus infarcts. Enoxaparin 0.7ml two times daily was started and relieved by clopidogrel 75 mg/day. A daily kinesitherapy was made. The patient remains with partial deficit recovery after eight months.

c) Case 3

A 56 years old carpenter man, with no personal and family history of cardiovascular diseases came to our observation with four hours of brutal left half body deficit. His height was 1,70m for 58 kg weighted and 130/80 mmHg for blood pressure. Neurological examination revealed, speech disturbance, left hemi paresis predominant on arm and face (2/5 arm, 4/5 leg). The left reflexes were low with Babinski sign, and left half body sensibility disturbed was noted. Routine blood analysis were normal except low protein S at 32% (normal: 80-130%). Hearts recording and ultrasonic performed were normal. Doppler of suproaortic vessels was normal. Ct-scan and MRI revealed right thalamus, corona radiate and parietal cortex ischemia with cortical and sub cortical atrophy that directed to ischemic stroke with multiples infarcts. Enoxaparin 0.6ml/day was started and relieved by clopidogrel 75 mg/day associated to daily kinesitherapy. The patient had completely health recovery after six months of follow up.

III. Discussion

The main known risk factors of ischemic stroke in young African people are high blood pressure, heart diseases, diabetes, alcohol, tobacco, and lipids. Our

Author α σ ρ ω ¥: University of Lomé, Togo.
e-mail: seraphinassogba@yahoo.frr

three patients had not presented any of this main risk factor. It was necessary to make the research of coagulation inhibiting factor as protein C and S. We only make the research of protein S because patients had no much money and this test was not available done in our country. The patients had not forwards used anticoagulant and oestroprogestatif treatment or other treatment that could lead to diminish the protein S level. The deficit in protein S was not acquired in our patients. We did not make the protein S and CT scan control because the needy patients had to pay themselves. We did not also make the patient and their family biological and genetic survey but we retain a constitutional deficit in protein S as the ischemic stroke risk factor in these three patients. The protein S deficiency can be asymptomatic and explained the absence of familial thromboembolic disease that could be related. The deficiency in protein S as the cerebral infarct aetiology is rarely reported in young African people.[4] The estimation of the frequency of the protein S deficient in general population, and in black African in particular is difficult because of the lack of epidemiologic data and the studies were extremely rare. The frequency of protein S deficiency range around 11% to 34% in black African and Caribbean population.[5,7] This large diversity of the prevalence and the frequency must due to population heterogeneity and rare studies. The age of first onset reported range around 15 to 45 years old in patients with ischemic stroke, and the abnormities seemed to be autosomal dominant transmission.[4,6,8] This high prevalence of protein S deficiency must exist in African countries but still unknown.

IV. Conclusion

The protein S deficiency constitutes an ischemic stroke risk factor in black young people, and must be researched forwards all cerebral infarct to reduce the indeterminate stroke aetiology. A wide prospective study is necessary to measure the real prevalence and frequency of coagulation disturbance factors in our countries, in the setting of stroke prevention.

References Références Referencias

1. Ashok PP, Radhakrishman K, Sridharan R, El-Mangoush MA. Incidence and pattern of cerebrovascular diseases in Benghazi, Libya. *J Neurol Neurosurg Neuropsychiatry* 1986; 49: 517-23.
2. Sonan-Douayoua T, Yapo P, Assi B, Akani F, Cowpli-Boni P, Aka-Diarra E. Les infarctus cérébraux de petite taille en Cote d'Ivoire: étude rétrospective clinique et scannographique de 113 cas. *African Journal of Neurological Sciences* 2004; 23:1-3.
3. Leys D. Les accidents ischémiques cérébraux du sujet jeune. *Rev. Med. Interne:* 2003; 24: 585-593.
4. Eid SS. Hereditary deficiencies of antithrombin III, protein C, protein S pathway in Jordanian thrombosis patients. *Clin Lab Sci* 2002; 15:196-9.
5. Chen WH, Lan MY, Chang YY, Chen SS, Liu JS. The prevalence of protein C, protein S and antithrombin III deficiencies in non APS/SLE Chinese adults with non cardiac and cerebral ischemia. *Clin Appl Thromb Hemost* 2003; 9:155-62.
6. Raicevic R, Jovicic A, Mandic-Radic S, Dordevic D, Markovic L, Dincic E. Protein S and ischemic brain disease. *Vojnosanit* Pregl. 2003; 60:28-31.
7. Haapaniemi E, Tatlisumak T, Soinne L, Syrjala M, Kaste M. Natural anticoagulant (antithrombin III, protein S and protein C) in patients with mild to moderate ischemic stroke. *Acta Neurol Scand.* 2002; 105:107-14.
8. Olah L, Misz M, Kappelmayer J, Ajzner E, Csepany T, Fekete I. Natural coagulation inhibitor proteins in young patients with cerebral ischemia. *Cerebrovasc Dis*. 2001; 12:291-7.

Table 1: Patients Clinical Characteristic Reported

N°	Age/Sex	Clinical features	CT-scan/ MRI	Protein S level	Treatment	Follow up
01	37 F	Right hemi paresis with 3/5 in leg and 4/5 in arm, high reflex, Babinski sign	Left fronto parietal hypo density	15% (N: 80-130%)	-Enoxaparin 0.6mlx2/day, -SAA 100 mg/day - Kinesitherapy.	Rankin scale at 3/6, stroke relapse, died.
02	45 M	-Left half body deficit and speech disturbance, -The right reflexes were abolish with Babinski	Right internal capsule and lenticular nucleus infarct,	22% (N: 60-130%)	-Enoxaparine 0.7ml/day relieved by Clopidogrel 75 mg/day. - Kinesitherapy	Partial deficit recovery after eight months
03	56 M	-Left hemi paresis (2/5 arm, 4/5 leg); - Left reflexes were low with Babinski sign, -Left half body sensibility disturbed	- Right thalamus, corona radiate and parietal infarct, - Cortical and sub cortical atrophy	32% (N: 60-130%)	-Enoxaparin 0.6ml/day, -Clopidogrel 75 mg/day -Kinesitherapy.	Completely health recovery after six months

Legend: M: male; F: female; SAA: salicylic acetyl acid.

Global Journal of Medical Research: a
Neurology and Nervous System
Volume 14 Issue 2 Version 1.0 Year 2014
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Positional Vertigo Ensuing from Abrupt Onset of Hearing Loss in a Patient Diagnosed with Anterior Inferior Cerebellar Artery Infarction

By Shang-Chang, Ho, MD & Chih- Ming Lin, MD, MPH

Abstract- We reported a case of anterior inferior cerbellar artery infarction initially manifesting with positional vertigo ensuing from abrupt onset of hearing loss. A 56-year-old Taiwanese man suffering from controlled hypertension visited a local hospital because of a “rocking sensation.” He was referred to the ear, nose, and throat (ENT) department for evaluation and was diagnosed with peripheral vertigo associated with positional change. Symptomatic treatment was administered, but produced a limited effect. He was then transferred to our hospital and was admitted to ENT services. The symptom was aggravated when the patient turned his head to either side or bent his neck forward. Two days after admission, he suffered from abrupt onset of hearing loss in the left ear. A neurologist was consulted. Neurological and physical examinations revealed unremarkable findings, except for sensorineural type hearing impairment in the left ear.

Keywords: anterior inferior cerbellar artery infarction cerebral magnetic resonance imaging sensorineural type hearing impairment magnetic resonance angiography auditory brain stem evoked potential aspirin.

GJMR-A Classification : NLMC Code: WV 270, WW 400

Positional Vertigo Ensuing from Abrupt Onset of Hearing Loss in a Patient Diagnosed with Anterior Inferior Cerebellar Artery Infarction

Shang-Chang, Ho, MD [α] & Chih-Ming Lin, MD, MPH [σ]

Abstract- We reported a case of anterior inferior cerbellar artery infarction initially manifesting with positional vertigo ensuing from abrupt onset of hearing loss. A 56-year-old Taiwanese man suffering from controlled hypertension visited a local hospital because of a "rocking sensation." He was referred to the ear, nose, and throat (ENT) department for evaluation and was diagnosed with peripheral vertigo associated with positional change. Symptomatic treatment was administered, but produced a limited effect. He was then transferred to our hospital and was admitted to ENT services. The symptom was aggravated when the patient turned his head to either side or bent his neck forward. Two days after admission, he suffered from abrupt onset of hearing loss in the left ear. A neurologist was consulted. Neurological and physical examinations revealed unremarkable findings, except for sensorineural type hearing impairment in the left ear. Cerebral magnetic resonance imaging (MRI) disclosed left-side anterior inferior cerbellar artery territory infarction. Magnetic resonance angiography (MRA) indicated stenosis in the midportion of the basilar artery and poor visualization of the left anterior inferior cerebellar artery. Auditory brain stem evoked potential testing indicated severe peripheral-type auditory pathway disorder in the left ear. Our patient was treated with 100 mg of lose dose Aspirin once daily for one month during hospitalization. Hearing loss was partially improved, whereas positional vertigo remained refractory. The patient was still undergoing regular follow-ups at neurological clinics up to date.

This case indicated the urgency of neurological consultation when first-line clinicians encounter prolonged positional vertigo accompanied by sudden hearing loss. A high index of suspected ischemic anterior inferior cerebellar artery infarction should be considered and be placed into differential diagnosis. We recommend that neuroimaging studies be ordered in any case exhibiting similar symptoms to achieve timely diagnoses and administer correct medication.

Keywords: anterior inferior cerbellar artery infarction cerebral magnetic resonance imaging sensorineural type hearing impairment magnetic resonance angiography auditory brain stem evoked potential aspirin.

I. Introduction

Positional vertigo is a commonly observed symptom encountered by most first-line medical practitioners. Vertigo is generally described as dizziness. Patients often report unsteadiness, heavy headedness, and general discomfort.[1,5] Misdiagnosis is typically caused by blurred and nonspecific descriptions. Once vertigo is suspected, differentiating between peripheral and central type vertigo is critical because central type vertigo often requires urgent management. Positional vertigo, as the name suggests, is a pure symptom associated with posture change. In the ears, nose, and throat (ENT) field, this terminology is often linked with benign positional paroxysmal vertigo (BPPV).[11,12] However, the diagnosis should be made when other symptoms occur simultaneously. Recently, sudden onset of hearing loss has been reported in case reports regarding cerebellar infarction, particularly anterior inferior cerbellar artery (AICA) infarction.[1,6,9] AICA exhibits several branching arteries; among them, the internal auditory artery (IAA)[10] is the most prominent artery that supplies blood circulation in the inner ear. Any injury to the IAA causes vestibular symptoms. In reported cases, AICA infarction has often been associated with cerebellar signs and symptoms. Observing any neuroimaging proved cerebellar lesion in the AICA territory without demonstrating any cerebellar signs and symptoms was rare. In this paper, we present a case of positional vertigo ensuing from sudden onset of hearing dysfunction. The underlying pathophysiology and mechanisms leading to the ischemic event are discussed

II. Case Report

A 56-year-old Taiwanese man presented with an acute onset of positional "rocking sensation" several days before he sought medical attention. He was a former businessman who had retired 5 years previously. He was a nonsmoker but was diagnosed with hypertension by his family physician several years previously and had since undergone regular medication control. He initially thought he merely had a common cold and took over-the-counter medicine for a few days. However, the effect of the medicine was limited. He then visited a local hospital and was transferred to the ENT services because of a suspected inner-ear problem. An ENT doctor examined him and tentatively diagnosed him with peripheral vertigo. Based on the patient's statement, his symptoms worsened when he turned his head sideways and bent his head forward. His problem was not alleviated. He was transferred to our hospital for advanced work up. Two days after admission, he experienced abrupt onset of hearing loss when he was

Author α σ: Attending physician(s), Stroke Center, Department of Neurology, Chunghua Christian Hospital. e-mail: 166110@cch.org.tw

three patients had not presented any of this main risk factor. It was necessary to make the research of coagulation inhibiting factor as protein C and S. We only make the research of protein S because patients had no much money and this test was not available done in our country. The patients had not forwards used anticoagulant and oestroprogestatif treatment or other treatment that could lead to diminish the protein S level. The deficit in protein S was not acquired in our patients. We did not make the protein S and CT scan control because the needy patients had to pay themselves. We did not also make the patient and their family biological and genetic survey but we retain a constitutional deficit in protein S as the ischemic stroke risk factor in these three patients. The protein S deficiency can be asymptomatic and explained the absence of familial thromboembolic disease that could be related. The deficiency in protein S as the cerebral infarct aetiology is rarely reported in young African people.[4] The estimation of the frequency of the protein S deficient in general population, and in black African in particular is difficult because of the lack of epidemiologic data and the studies were extremely rare. The frequency of protein S deficiency range around 11% to 34% in black African and Caribbean population.[5,7] This large diversity of the prevalence and the frequency must due to population heterogeneity and rare studies. The age of first onset reported range around 15 to 45 years old in patients with ischemic stroke, and the abnormities seemed to be autosomal dominant transmission.[4,6,8] This high prevalence of protein S deficiency must exist in African countries but still unknown.

IV. Conclusion

The protein S deficiency constitutes an ischemic stroke risk factor in black young people, and must be researched forwards all cerebral infarct to reduce the indeterminate stroke aetiology. A wide prospective study is necessary to measure the real prevalence and frequency of coagulation disturbance factors in our countries, in the setting of stroke prevention.

References Références Referencias

1. Ashok PP, Radhakrishman K, Sridharan R, El-Mangoush MA. Incidence and pattern of cerebrovascular diseases in Benghazi, Libya. *J Neurol Neurosurg Neuropsychiatry* 1986; 49: 517-23.
2. Sonan-Douayoua T, Yapo P, Assi B, Akani F, Cowpli-Boni P, Aka-Diarra E. Les infarctus cérébraux de petite taille en Cote d'Ivoire: étude rétrospective clinique et scannographique de 113 cas. *African Journal of Neurological Sciences* 2004; 23:1-3.
3. Leys D. Les accidents ischémiques cérébraux du sujet jeune. *Rev. Med. Interne:* 2003; 24: 585-593.
4. Eid SS. Hereditary deficiencies of antithrombin III, protein C, protein S pathway in Jordanian thrombosis patients. *Clin Lab Sci* 2002; 15:196-9.
5. Chen WH, Lan MY, Chang YY, Chen SS, Liu JS. The prevalence of protein C, protein S and antithrombin III deficiencies in non APS/SLE Chinese adults with non cardiac and cerebral ischemia. *Clin Appl Thromb Hemost* 2003; 9:155-62.
6. Raicevic R, Jovicic A, Mandic-Radic S, Dordevic D, Markovic L, Dincic E. Protein S and ischemic brain disease. *Vojnosanit* Pregl. 2003; 60:28-31.
7. Haapaniemi E, Tatlisumak T, Soinne L, Syrjala M, Kaste M. Natural anticoagulant (antithrombin III, protein S and protein C) in patients with mild to moderate ischemic stroke. *Acta Neurol Scand.* 2002; 105:107-14.
8. Olah L, Misz M, Kappelmayer J, Ajzner E, Csepany T, Fekete I. Natural coagulation inhibitor proteins in young patients with cerebral ischemia. *Cerebrovasc Dis*. 2001; 12:291-7.

Table 1: Patients Clinical Characteristic Reported

N°	Age/Sex	Clinical features	CT-scan/ MRI	Protein S level	Treatment	Follow up
01	37 F	Right hemi paresis with 3/5 in leg and 4/5 in arm, high reflex, Babinski sign	Left fronto parietal hypo density	15% (N: 80-130%)	-Enoxaparin 0.6mlx2/day, -SAA 100 mg/day - Kinesitherapy.	Rankin scale at 3/6, stroke relapse, died.
02	45 M	-Left half body deficit and speech disturbance, -The right reflexes were abolish with Babinski	Right internal capsule and lenticular nucleus infarct,	22% (N: 60-130%)	-Enoxaparine 0.7ml/day relieved by Clopidogrel 75 mg/day. - Kinesitherapy	Partial deficit recovery after eight months
03	56 M	-Left hemi paresis (2/5 arm, 4/5 leg); - Left reflexes were low with Babinski sign, -Left half body sensibility disturbed	- Right thalamus, corona radiate and parietal infarct, - Cortical and sub cortical atrophy	32% (N: 60-130%)	-Enoxaparin 0.6ml/day, -Clopidogrel 75 mg/day -Kinesitherapy.	Completely health recovery after six months

Legend: M: male; F: female; SAA: salicylic acetyl acid.

crossed sensory loss, ataxia, and Horner's syndrome.[3] However, in our case, the brain stem and cerebellar signs and symptoms were absent.

Sudden onset of hearing loss is a critical sign for AICA infarction[2,4,9] and can mimic other vestibular dysfunctions, such as Menier's disease,[4] vestibular neuronitis, labyrinthitis, and facial palsy.[2] Detailed neurophysiological testing and cerebral neuroimaging studies should be arranged for all patients presenting with deafness.

In the neurophysiologic testing, AEP also complemented the correct clinical diagnosis. In our patient, AEP revealed an absence of the first to fourth waveforms, except for the fifth waveform under normal and enhanced stimuli. The absence of the first waveform was due to the obstruction of the input stimuli generated from by the cochlear apparatus, whereas the presence of the fifth waveform delineated the intact brain stem function. The aforementioned findings echoed that of the cerebral MRI findings and supported the hypothesis that it was the ischemic cochlea that caused the clinical vestibular symptoms.

In summary, our case provides clinical evidence that if a patient presenting with a vascular risk factor that initially manifests with as postural vertigo ensuing from abrupt onset of hearing impairment, AICA territory infarction should be highly suspected, even though the brain stem and cerebellar signs are not apparent.[4] We recommend that cerebral neuroimaging be ordered in all similar situations to prevent misdiagnosis and promptly administer medication.

IV. Acknowledgment

The authors declare no conflict of interest with any institution or organization.

References Références Referencias

1. Sudden onset hearing loss and vertigo just before posterior inferior cerebellar artery infarction (lateral medulla syndrome). Kanzaki S, Suzuki T, Suzuki S, Suzuki N, Ogawa K. Otol Neurotol. **2013** Feb; 34(2):e6-7.doi:10.1097/MAO.0b013e31826dba43.
2. AICA syndrome with facial palsy following vertigo and acute sensorineural hearing loss. Ikegami-Takada T, Izumikawa M, Doi T, Takada Y, Tomoda K. Auris Nasus Larynx. **2012** Apr; 39(2): 244-8. doi: 10.1016/j.anl.2011.07.015. Epub 2011 Aug 20.
3. Sudden sensorineural hearing loss as prodromal symptom of anterior inferior cerebellar artery infarction.Martines F, Dispenza F, Gagliardo C, Martines E, Bentivegna D. ORL J Otorhinolaryngol Relat Spec. **2011**; 73(3):137-40. doi: 10.1159/-000327523. Epub 2011 Apr 14.
4. Recurrent audiovestibular disturbance initially mimicking Ménière's disease in a patient with anterior inferior cerebellar infarction. Park JH, Kim H, Han HJ. Neurol Sci. **2008** Oct; 29(5):359-62. doi: 10.1007/s10072-008-0996-0.
5. Sudden deafness related to posterior circulation infarction in the territory of the nonanterior inferior cerebellar artery: frequency, origin, and vascular topographical pattern. Lee H. Eur Neurol. **2008**; 59(6):302-6. doi: 10.1159/000121421.
6. Anterior and posterior inferior cerebellar artery infarction with sudden deafness and vertigo. Murakami T, Nakayasu H, Doi M, Fukada Y, Hayashi M, Suzuki T, Takeuchi Y, Nakashima K. J Clin Neurosci. **2006** Dec; 13(10):1051-4. Epub 2006 Oct 30.
7. Sudden deafness in vertebrobasilar ischemia: clinical features, vascular topographical patterns and long-term outcome. Lee H, Baloh RW. J Neurol Sci. **2005** Jan 15; 228(1):99-104. Epub 2004 Nov 30.
8. Sudden deafness with vertigo as a sole manifestation of anterior inferior cerebellar artery infarction. Lee H, Ahn BH, Baloh RW. J Neurol Sci. **2004** Jul15; 222(1-2):105-7.
9. Sudden deafness and anterior inferior cerebellar artery infarction. Lee H, Sohn SI, Jung DK, Cho YW, Lim JG, Yi SD, Lee SR, Sohn CH, Baloh RW. Stroke. **2002** Dec; 33(12):2807-12.
10. Cerebellar infarction in the territory of the anterior and inferior cerebellar artery. A clinicopathological study of 20 cases. Amarenco P, Hauw JJ. Brain. **1990** Feb; 113 (Pt 1):139-55.
11. A perspective on recurrent vertigo. Gacek RR.ORL J Otorhinolaryngol Relat Spec. **2013**; 75(2):91-107. doi: 10.1159/000348710.
12. Evaluation of vertebrobasilar artery changes in patients with benign paroxysmal positional vertigo. Zhang D, Zhang S, Zhang H, Xu Y, Fu S, Yu M, Ji P. Neuroreport. **2013** Sep 11; 24(13):741-5. doi: 10.1097/WNR.0b013e328364b948.

Legend

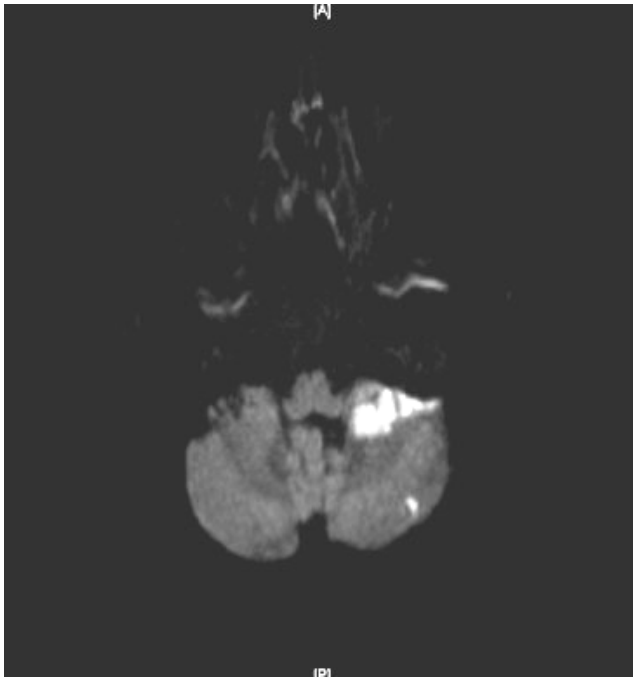


Figure 1 : Diffusion Weighted Imaging of Brain MRI Showed High Signal Intensity Over Left Side Upper and Lateral Portion of Cerebellar Region Suggestive of Left Side AICA Territory Infarct (Black Arrows).

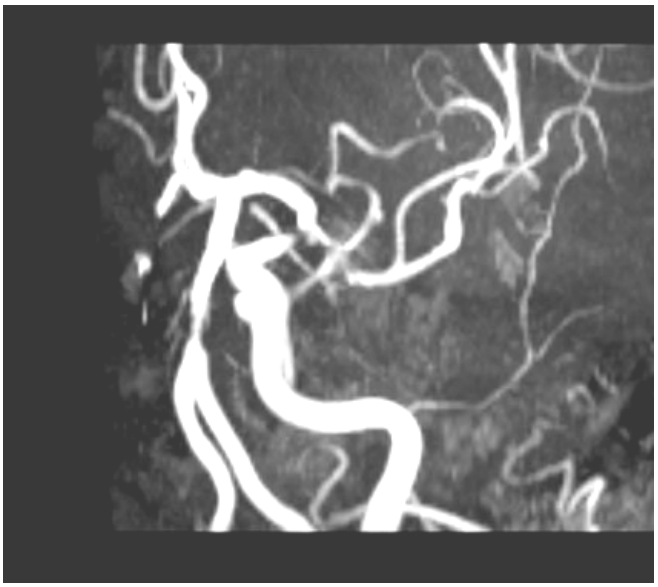


Figure 2 : Cerebral MRA Showed Moderate to Sever Mid-Portion of Basilar Artery Stenosis Along with Left Side Poor Visualization of AICA Distribution (Black Arrow).

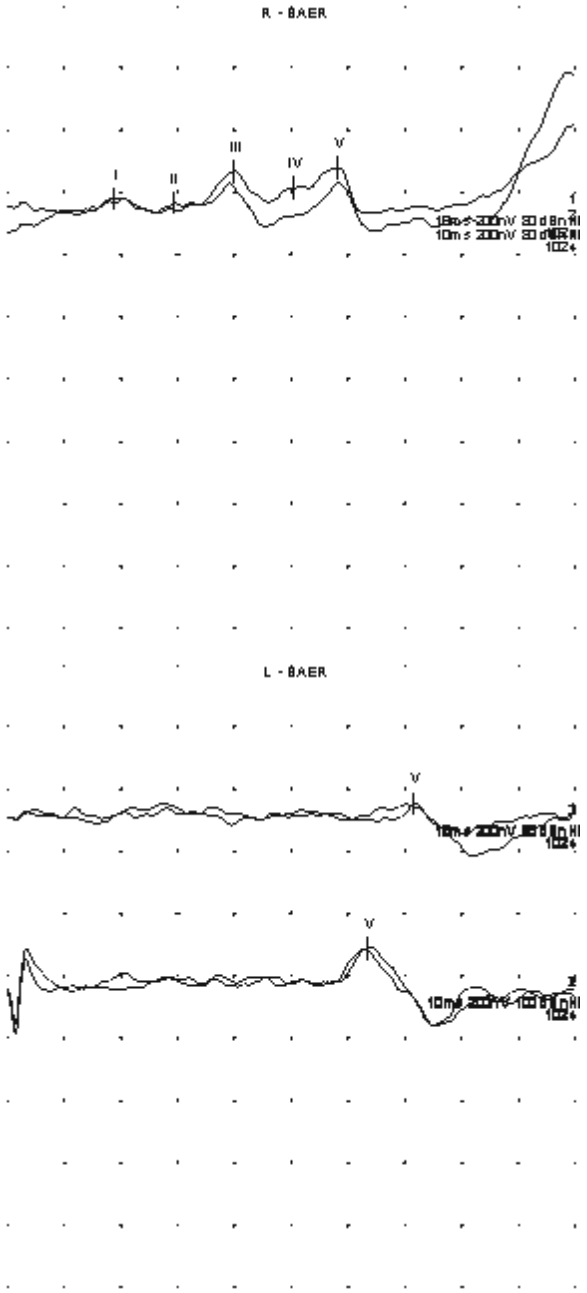


Figure 3 : Auditory Brain Stem Evoker Potential (AEP) Showed No Elicitation of Left Side First to Fourth Wave-Forms Under Normal and Enhanced Stimuli. Right Side AEP was Normal.

Global Journals Inc. (US) Guidelines Handbook 2014

www.GlobalJournals.org

FELLOWS

FELLOW OF ASSOCIATION OF RESEARCH SOCIETY IN MEDICAL (FARSM)

Global Journals Incorporate (USA) is accredited by Open Association of Research Society (OARS), U.S.A and in turn, awards "FARSM" title to individuals.The 'FARSM' title is accorded to a selected professional after the approval of the Editor-in-Chief/Editorial Board Members/Dean.

- The "FARSM" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall,Ph.D., FARSS or William Walldroff, M.S., FARSM.

FARSM accrediting is an honor. It authenticates your research activities. After recognition as FARSM, you can add 'FARSM' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, and Visiting Card etc.

The following benefits can be availed by you only for next three years from the date of certification:

FARSM designated members are entitled to avail a 40% discount while publishing their research papers (of a single author) with Global Journals Incorporation (USA), if the same is accepted by Editorial Board/Peer Reviewers. If you are a main author or co-author in case of multiple authors, you will be entitled to avail discount of 10%.

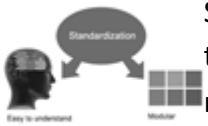
Once FARSM title is accorded, the Fellow is authorized to organize a symposium/seminar/conference on behalf of Global Journal Incorporation (USA). The Fellow can also participate in conference/seminar/symposium organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent.

You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference at least once.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The FARSM can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSM, you will be given a renowned, secure and free professional email addres with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.



The FARSM will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSM member can apply for grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSM, you may send us a scanned copy of all of you credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

The FARSM members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.

The FARSM member also entitled to get the benefits of free research podcasting of their research documents through video clips. We can also streamline your conference videos and display your slides/ online slides and online research video clips at reasonable charges, on request.

The FARSM is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSS can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its profit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSM member can decide its price and we can help in making the right decision.

The FARSM member is eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get remuneration of 15% of author fees, taken from the author of a respective paper. After reviewing 5 or more papers you can request to transfer the amount to your bank account.

MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN MEDICAL (MARSM)

The ' MARSM ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The "MARSM" is a dignified ornament which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., MARSM or William Walldroff, M.S., MARSM.

MARSM accrediting is an honor. It authenticates your research activities. Afterbecoming MARSM,you can add 'MARSM' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

The following benefitscan be availed by you only for next three years from the date of certification.

MARSM designated members are entitled to avail a 25% discount while publishing their research papers (of a single author) in Global Journals Inc., if the same is accepted by our Editorial Board and Peer Reviewers. If you are a main author or co-author of a group of authors, you will get discount of 10%.

As MARSM, you willbe given a renowned, secure and free professional email address with 30 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSM member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSM, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

AUXILIARY MEMBERSHIPS

Institutional Fellow of Open Association of Research Society (USA) - OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.

The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.

We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

Other:

The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

"

- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Process of submission of Research Paper

The Area or field of specialization may or may not be of any category as mentioned in 'Scope of Journal' menu of the GlobalJournals.org website. There are 37 Research Journal categorized with Six parental Journals GJCST, GJMR, GJRE, GJMBR, GJSFR, GJHSS. For Authors should prefer the mentioned categories. There are three widely used systems UDC, DDC and LCC. The details are available as 'Knowledge Abstract' at Home page. The major advantage of this coding is that, the research work will be exposed to and shared with all over the world as we are being abstracted and indexed worldwide.

The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

The Author can submit the paper either online or offline. The authors should prefer online submission.Online Submission: There are three ways to submit your paper:

(A) (I) First, register yourself using top right corner of Home page then Login. If you are already registered, then login using your username and password.

(II) Choose corresponding Journal.

(III) Click 'Submit Manuscript'. Fill required information and Upload the paper.

(B) If you are using Internet Explorer, then Direct Submission through Homepage is also available.

(C) If these two are not conveninet , and then email the paper directly to dean@globaljournals.org.

Offline Submission: Author can send the typed form of paper by Post. However, online submission should be preferred.

Preferred Author Guidelines

MANUSCRIPT STYLE INSTRUCTION (Must be strictly followed)

Page Size: 8.27" X 11'"

- Left Margin: 0.65
- Right Margin: 0.65
- Top Margin: 0.75
- Bottom Margin: 0.75
- Font type of all text should be Swis 721 Lt BT.
- Paper Title should be of Font Size 24 with one Column section.
- Author Name in Font Size of 11 with one column as of Title.
- Abstract Font size of 9 Bold, "Abstract" word in Italic Bold.
- Main Text: Font size 10 with justified two columns section
- Two Column with Equal Column with of 3.38 and Gaping of .2
- First Character must be three lines Drop capped.
- Paragraph before Spacing of 1 pt and After of 0 pt.
- Line Spacing of 1 pt
- Large Images must be in One Column
- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
- Numbering of Second Main Headings (Heading 2) must be in Alphabets, Italic, and Font Size of 10.

You can use your own standard format also.
Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

1. GENERAL

Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

Journals Inc. (US) are being abstracted and indexed (in process) by most of the reputed organizations. Topics of only narrow interest will not be accepted unless they have wider potential or consequences.

2. ETHICAL GUIDELINES

Authors should follow the ethical guidelines as mentioned below for publication of research paper and research activities.

Papers are accepted on strict understanding that the material in whole or in part has not been, nor is being, considered for publication elsewhere. If the paper once accepted by Global Journals Inc. (US) and Editorial Board, will become the copyright of the Global Journals Inc. (US).

Authorship: The authors and coauthors should have active contribution to conception design, analysis and interpretation of findings. They should critically review the contents and drafting of the paper. All should approve the final version of the paper before submission

The Global Journals Inc. (US) follows the definition of authorship set up by the Global Academy of Research and Development. According to the Global Academy of R&D authorship, criteria must be based on:

1) Substantial contributions to conception and acquisition of data, analysis and interpretation of the findings.

2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

Acknowledgements: Contributors to the research other than authors credited should be mentioned under acknowledgement. The specifications of the source of funding for the research if appropriate can be included. Suppliers of resources may be mentioned along with address.

Appeal of Decision: The Editorial Board's decision on publication of the paper is final and cannot be appealed elsewhere.

Permissions: It is the author's responsibility to have prior permission if all or parts of earlier published illustrations are used in this paper.

Please mention proper reference and appropriate acknowledgements wherever expected.

If all or parts of previously published illustrations are used, permission must be taken from the copyright holder concerned. It is the author's responsibility to take these in writing.

Approval for reproduction/modification of any information (including figures and tables) published elsewhere must be obtained by the authors/copyright holders before submission of the manuscript. Contributors (Authors) are responsible for any copyright fee involved.

3. SUBMISSION OF MANUSCRIPTS

Manuscripts should be uploaded via this online submission page. The online submission is most efficient method for submission of papers, as it enables rapid distribution of manuscripts and consequently speeds up the review procedure. It also enables authors to know the status of their own manuscripts by emailing us. Complete instructions for submitting a paper is available below.

Manuscript submission is a systematic procedure and little preparation is required beyond having all parts of your manuscript in a given format and a computer with an Internet connection and a Web browser. Full help and instructions are provided on-screen. As an author, you will be prompted for login and manuscript details as Field of Paper and then to upload your manuscript file(s) according to the instructions.

To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

4. MANUSCRIPT'S CATEGORY

Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and to make suggestions to improve briefness.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

Format

Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

Color Charges: It is the rule of the Global Journals Inc. (US) for authors to pay the full cost for the reproduction of their color artwork. Hence, please note that, if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a color work agreement form before your paper can be published.

Figure Legends: Self-explanatory legends of all figures should be incorporated separately under the heading 'Legends to Figures'. In the full-text online edition of the journal, figure legends may possibly be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should notify the reader, about the key aspects of the figure.

6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

As changes to proofs are costly, we inquire that you only correct typesetting errors. All illustrations are retained by the publisher. Please note that the authors are responsible for all statements made in their work, including changes made by the copy editor.

6.2 Early View of Global Journals Inc. (US) (Publication Prior to Print)

The Global Journals Inc. (US) are enclosed by our publishing's Early View service. Early View articles are complete full-text articles sent in advance of their publication. Early View articles are absolute and final. They have been completely reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after sending them. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the conventional way.

6.3 Author Services

Online production tracking is available for your article through Author Services. Author Services enables authors to track their article - once it has been accepted - through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The authors will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript.

6.4 Author Material Archive Policy

Please note that if not specifically requested, publisher will dispose off hardcopy & electronic information submitted, after the two months of publication. If you require the return of any information submitted, please inform the Editorial Board or dean as soon as possible.

6.5 Offprint and Extra Copies

A PDF offprint of the online-published article will be provided free of charge to the related author, and may be distributed according to the Publisher's terms and conditions. Additional paper offprint may be ordered by emailing us at: editor@globaljournals.org .

Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

Administration Rules Listed Before Submitting Your Research Paper to Global Journals Inc. (US)

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

Criterion for Grading a Research Paper (Compilation) by Global Journals Inc. (US)

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals Inc. (US).

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

INDEX

Global Journal of Medical Research

Visit us on the Web at www.GlobalJournals.org | www.JournalofScience.org
or email us at helpdesk@globaljournals.org

ISSN 9755896