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Highlights

- Mastoid Cavity Obliteration
- A Large Dental Hamartoma
- Diseases Mucous Membrane
- Nasal Biphenotypic Sino-Nasal

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A Large Dental Hamartoma of Mandible in a Young Girl - Complex Odontoma

By Dr. M. Mahesh, Dr. P. Manasa & Dr. P. Divya Shree
Meghna Institute of Dental Sciences

Abstract- Odontomas are benign tumors of odontogenic tissue which are categorized as hamartomas because they result from developmental malformation of odontogenic tissues. They are classified into Compound Odontoma and Complex Odontoma. Compound odontomas are reported to be twice more common than complex odontomas. Complex odontoma is a rare tumor. Complex odontomas are usually asymptomatic, and they are accidentally noticed during a routine radiographic examination. But here we report and discuss a case of complex odontoma with unusually large size causing a disturbance in the eruption of second mandibular molar in a young girl who presented with chief complaint of pain and swelling on right side mandible.

Keywords: complex odontoma, hamartomas, mandible, odontogenic tumors.

GJMR-J Classification: NLMC Code: WU 210

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A Large Dental Hamartoma of Mandible in a Young Girl - Complex Odontoma

Dr. M. Mahesh [α], Dr. P. Manasa [σ] & Dr. P. Divya Shree [ρ]

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Keywords: complex odontoma, hamartomas, mandible, odontogenic tumors.

I. Introduction

Odontomas are the most common odontogenic tumors. They are classified into Compound Odontoma and Complex Odontoma. Clinically complex odontomas are very rare when compared to compound odontomas. They are asymptomatic and are discovered during a routine dental examination; hence here we aim to report such a rare case of complex odontoma in a young girl who presented to us with a chief complaint of swelling associated with pain in the right mandibular region.

II. Case Report

A 14-year-old female patient presented with a chief complaint of swelling in the right lower jaw region for 15 days. Patient history revealed that the patient was asymptomatic before 15 days later she noticed a painful swelling which gradually increased to present size. The patient had no history of trauma. Her medical and family history was not remarkable.

Extraoral examination revealed a solitary swelling measuring approx 3x2cms in size, present on the right side of the mandible extending from midway of the body of the mandible to angle of the mandible, roughly oval in shape, smooth surface, no color change is seen. On palpation, the swelling was tender, soft in consistency, non-compressible, and non-reducible. On intraoral examination, we noticed missing mandibular right second molar tooth. There was swelling in the region of 47 measuring approx 1x1cms in size, extending from the distal aspect of 46, no color change and no other secondary changes were noticed. On palpation, there was vestibular tenderness about right mandibular second molar region, tender and hard on palpation. Provisional diagnosis considered was the impacted second molar with a suspected dentigerous cyst.

IOPA and OPG was advised. They revealed a well defined radio opaque mass surrounded by a thin radiolucent line in association with an un-erupted mandibular right second molar. A diagnosis of complex odontoma was given based on the clinical and radiographic presentation of the lesion.

Under local anesthesia, intraorally the lesion was approached and excision of the lesion was done along with the extraction of the impacted second molar. After thorough curettage the wound was closed by placing sutures then the specimen was sent for histopathological examination. Histopathological examination suggested the diagnosis of complex odontoma. The patient was under observation for 6-months.

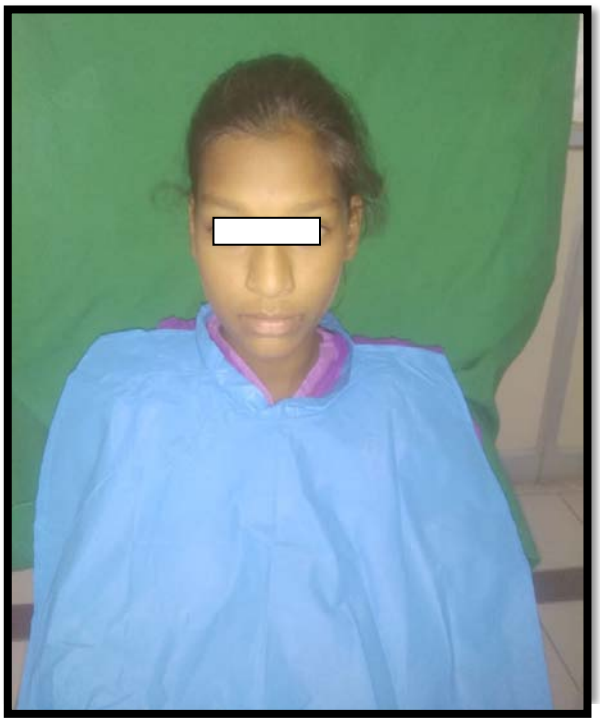

Fig. 1: Preoperative Frontal View of the Patient

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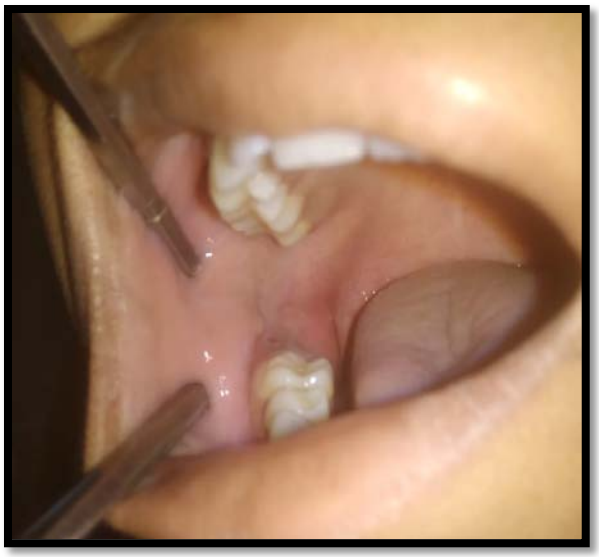

Fig. 2: Preoperative Intraoral View of the Patient

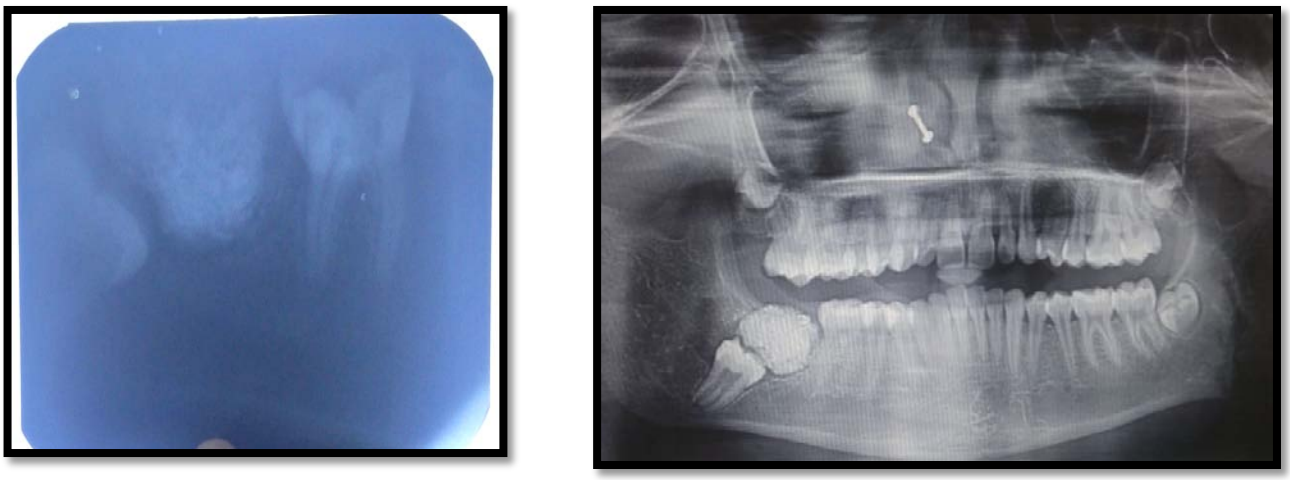

Fig. 3: Preoperative IOPA & Orthopantamograph Revealing Radio Opaque Mass & Impacted Second Molar

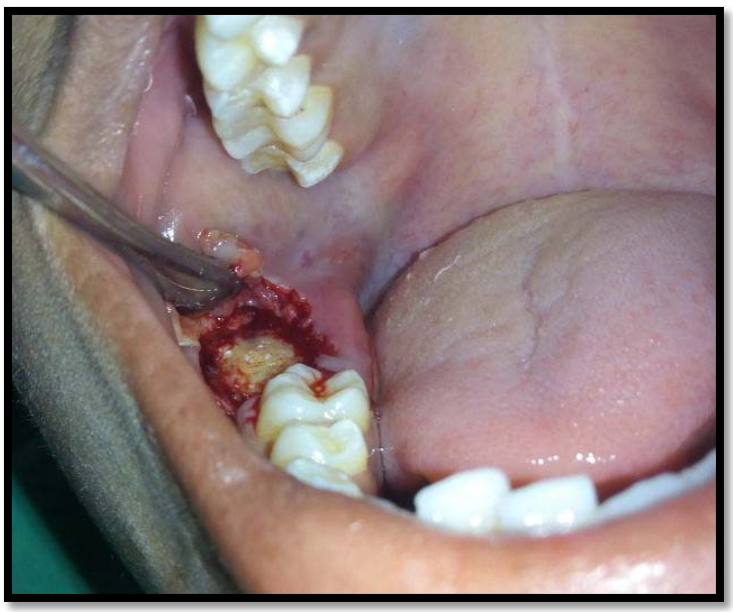

Fig. 4: Photograph Showing the Exposed Odontoma

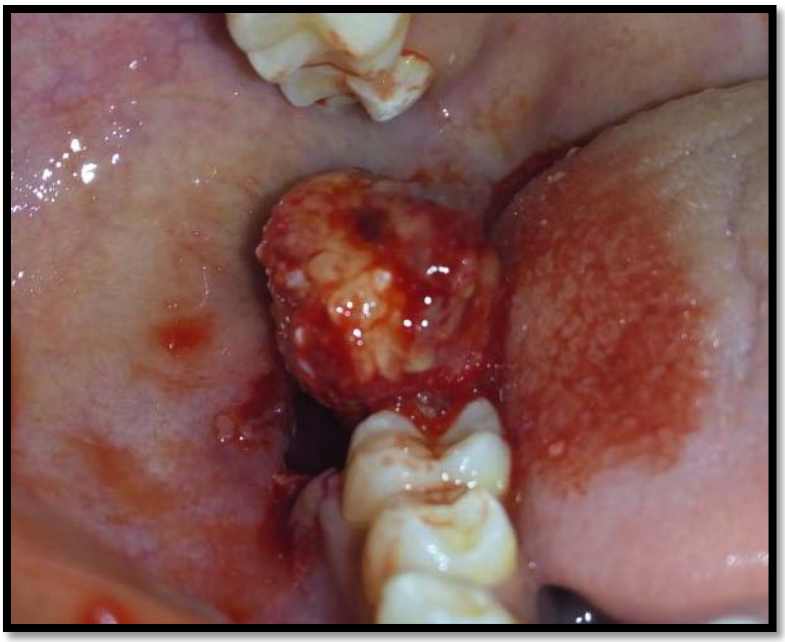

Fig. 5: Photograph Showing Completely Exposed Odontoma

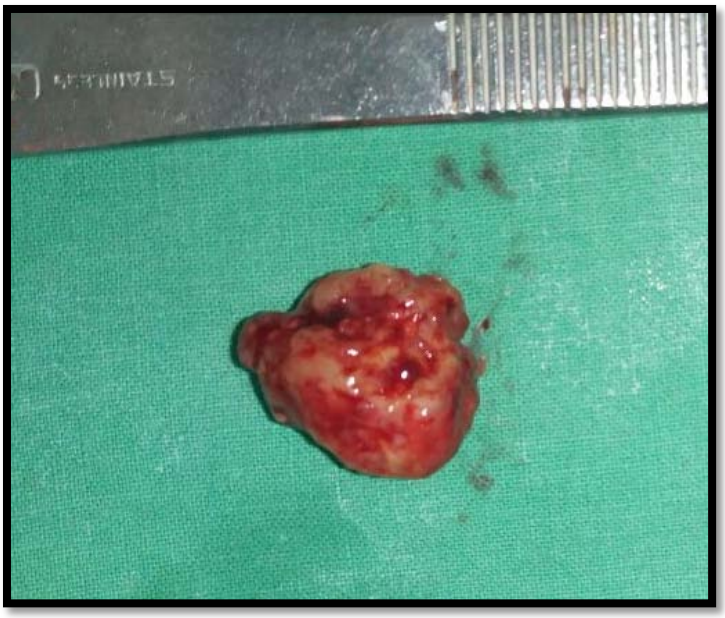

Fig. 6: Excised Specimen

III. Discussion

The term Odontoma was first coined by Paul Broca in 1947 [1,2,3]. Odontomas are benign tumors that arise from the odontogenic tissues and are developmental in origin [4]. The etiology of these tumors may be due to trauma or infection [5,6,7,8,9]. There is no gender distribution [7,8,9]. WHO in 2005 classified odontomas in two types namely compound and complex odontomas [10,11]. The most common age of occurrence is 12-18 years. Odontomas can occur anywhere in the jaws; compound odontomas are seen most frequently in the maxillary canine and incisor region whereas the complex odontomas are found more commonly in the mandibular molar region [10,11].

Clinically these tumors are asymptomatic. Since most of the odontomas are asymptomatic, they are found during the routine dental examination. The clinical indicators for the presence of odontoma include retention of deciduous teeth, noneruption of permanent teeth, pain, swelling, expansion of the cortical bone and tooth displacement [4,5,6].

On radiograph complex odontoma appears as a radioopaque mass which does not resemble tooth structure. Based on the degree of calcification of the lesion there are three developmental stages

radiographically. The first stage is characterized by radiolucency due to the absence of dental tissue calcification; the second or intermediate stage shows partial calcification and the third or classically radiopaque stage exhibits predominant tissue calcification with the surrounding radiolucent halo [12,13]. In our case study, we presented a mature third stage classically radioopaque complex odontoma.

Complex odontoma is characterized by sheets of immature tubular dentin with encased hallow tooth-like structures histologically. The treatment of choice is Conservative surgical excision of the lesion.

IV. Conclusion

Large complex odontomas are characterized by expansion of cortical plates, and if such odontomas are left untreated they can cause pathological fractures, facial asymmetry and paresthesia hence surgical excision is the treatment of choice.

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Microdontia Involving Mandibular Lateral Incisor: A Rare Case Report

By Dr. Kirti Saharan, Dr. Shivaprasad S., Dr. Ashok L. & Dr. Shubha C.

Bapuji Dental College and Hospital

Abstract- The size of teeth, when smaller than normal is termed as microdontia. Microdontia involving a single tooth is frequently seen. It commonly affects the maxillary lateral incisor and the third molars. A common form of microdontia which affects the maxillary lateral incisor is known as "peg lateral." But localized involvement of mandibular lateral incisor is very rare entity in itself. Hence, this article describes a rare finding of microdont mandibular lateral incisor in a 9-year-old Indian female.

Keywords: *microdontia, mandibular, lateral incisor.*

GJMR-J Classification: *NLMC Code: WU 290*

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Microdontia Involving Mandibular Lateral Incisor: A Rare Case Report

Dr. Kirti Saharan [α], Dr. Shivaprasad S. [σ], Dr. Ashok L. [ρ] & Dr. Shubha C. [ω]

Abstract- **The size of teeth, when smaller than normal is termed as microdontia. Microdontia involving a single tooth is frequently seen. It commonly affects the maxillary lateral incisor and the third molars. A common form of microdontia which affects the maxillary lateral incisor is known as "peg lateral." But localized involvement of mandibular lateral incisor is very rare entity in itself. Hence, this article describes a rare finding of microdont mandibular lateral incisor in a 9-year-old Indian female.**

Keywords: microdontia, mandibular, lateral incisor.

I. Introduction

Microdontia is a condition where the teeth are smaller than the normal size, which may involve all the teeth or be limited to a single tooth or a group of teeth.1Localized involvement of mandibular lateral incisor is rare. Hence, this article tends to describe a rare finding of microdont mandibular lateral incisor in a 9-year-old Indian female making this case report educationally and clinically important.

II. Case Report

A 9 year old female patient reported to the department of Oral Medicine and Radiology, Bapuji Dental College and Radiology, Davangere, Karnataka with a chief compliant of pain in the left lower back tooth region since 4 days. History revealed that the pain was severe in intensity, throbbing type, aggravated on taking food. Her past dental, medical, family and personal history were non-contributory. On examination, the patient's face looked symmetrical with convex facial profile and no temporo-mandibular joint abnormality. (Fig. 1). Intraorally, patient had mixed dentition with Class II caries in 54, 64, 74 and 84. 74 and 84 were tender on percussion. Also conspicuous was the microdontpermanent mandibular left lateral incisor. On carefull examination of the mandibular arch, a small sized tooth was noted (Fig. 2). On revisiting the past patient's mother revealed that they were of normal history about the deciduous mandibular incisors, morphology and were not subjected to any trauma. IOPA was advised w.r.t 74, 42 and 84. IOPA w.r.t 42 revealed reduced mesiodistal dimensions of 42 as compared to the adjacent tooth (Fig. 3). Hence, a diagnosis of Acute irreversible pulpitis w.r.t 74 & 84. Patient was subjected to further evaluation after treatment of 74 and 84.

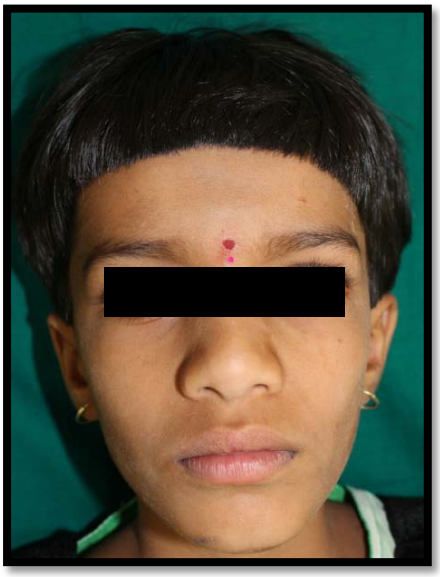

Fig. 1: Facial Profile

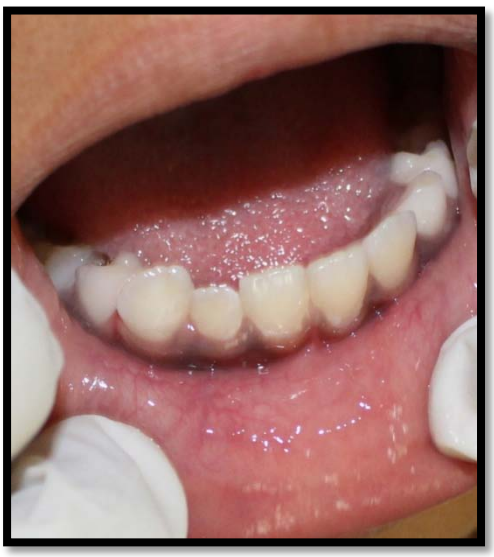

Fig. 2: Unilateral Microdont 42

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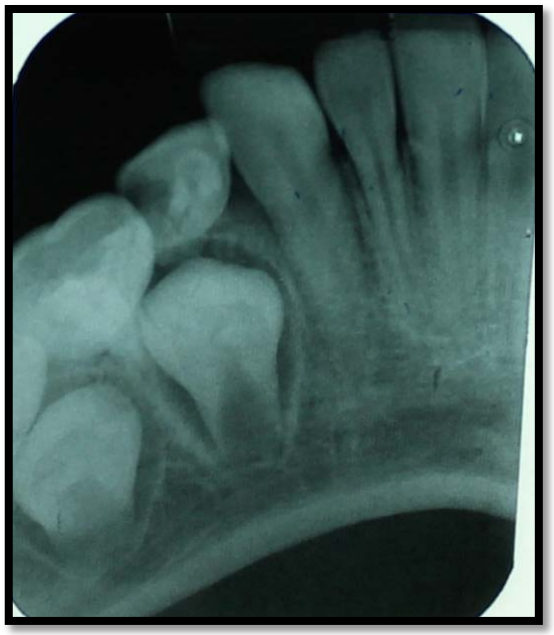

Fig. 3: IOPA w.r.t 42

Maxillary and mandibular casts were poured and measurement of mandibular lateral incisors was done for both right and left side with Vernier callipers which revealed the mesio-distal dimension of 32 to be 6mm and 42 to be 4.5mm, cervico-incisal dimension of 32 to be 7mm and 42 to be 5mm and buccolingual dimensions of 32 to be 6mm and 42 to be 4.5mm which confirmed the presence of small tooth (Fig. 4). Patient was kept under follow-up.

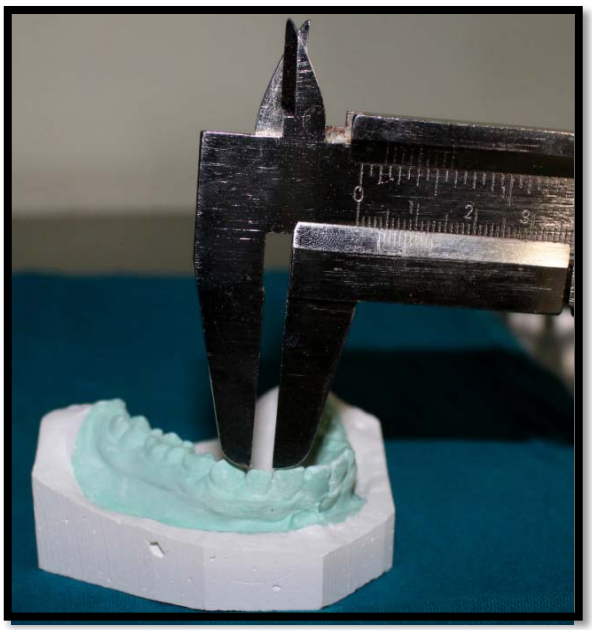

Fig. 4: Measurement of 42 with Vernier Calipers

III. Discussion

The term "Microdontia" is used to describe teeth which are smaller than normal, i.e. outside the usual limits of variation. Three types of microdontia are recognized: (1) true generalized microdontia, (2) relative generalized microdontia, and (3) microdontia involving a single tooth. (2) Bargale et al., (2011) classified microdontiaof a single tooth as: (1) microdontia of the whole tooth, (2) microdontia of the crown of the tooth, and (3) microdontia of the root alone.3 Microdontia involving only a single tooth is a rather common condition. It affects most often the maxillary lateral incisor followed by the third molar. One of the common forms of localized microdontia is that which affects the maxillary lateral incisor, a condition that has been called the 'peg lateral'. (2) The prevalence of microdontiavaries between 0.8 to 8.4% (Neville et al, 2005) 4. Four different studies conducted on Indian population showed a prevalence rate of 0.16%, 1%, 2.58% and 4.3% with maxillary laterals incisors (peg laterals) most frequently affected (Sharma & Singh 2014). 5 Occurrence of peg-shaped incisors in the mandibular arch is a rare finding. The prevelance of peg shaped lateral in the maxilla to be 7.5% in Asians and 1.6% in non-Asians. The prevalence of peg shaped mandibular incisor, unilateral has been reported to be 1% of the population (Rajab LD & Hamdan MA, 2002). 6 The occurrence being common in girls when compared to boys. 7 English literature showed only six reported cases of peg shaped microdontia in the mandibular arch, including Sharma A. (2001)8; Ramachandra S. S. et al. (2009)9; Anziani H. et al. (2010) 10; Chanchala H. P. and Nandlal B. (2012) 7; Malleshi S. et al. (2014) 11; Sharma S. and Singh S. (2014) 5 and Rathore R. et al. (2015) 12; all of which reported peg-shaped microdontia affecting mandibular central incisors. But none has reported microdontia involving mandibular lateral incisor like the present case report according to our English literature search.

Strong association has been suggested between hypodontia and microdontia. The etiology of such dental developmental anomalies is obscure. While racial difference in prevalence suggests that genetic factors may be a more probable reason to the congenital absence of teeth, variable etiology exists including hereditary, environmental or endocrine disturbances.13There are several genes implicated in tooth agenesis, but mutations occurring in MSX1, PAX9, AXIN2, and EDA are shown to be involved in non-syndromic human tooth agenesis.13,14

The syndromes associated with microdontia are Gorlin-Chaudhry - Moss syndrome, Williams's syndrome, Ullrich-Turner syndrome, Chromosome 13 syndrome, Rothmund-Thomson syndrome, Hallermann-Streiff, Orofaciodigital syndrome (type 3), Oculo-mandibulo - facial syndrome, Tricho-Rhino-Phalangeal and type1 Branchiooculo-facial syndrome. 15

Treatment approach has to be case specific and depends on the condition of primary predecessor, number of missing teeth, status of occlusion / occlusal condition and patient/ parent's preferences.12

IV. Conclusion

Microdontia weather generalized or localized can cause dental disharmony in the form of discrepancy between arch and tooth size, midline shift and further causing functional and aesthetic alterations. Since dental esthetics is known to affect the overall quality of life, it is important that a multidisciplinary approach is adopted in the treatment of patients with such type of tooth deformity. Hence, early diagnosis and appropriate management of these dental anomalies is indispensable.

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The Forgotten Rambo Flap for Mastoid Cavity Obliteration

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Abstract- *Background:* Mastoid cavity resulting from a canal-wall-down (CWD) mastoidectomy causes major morbidity in the form of chronic discharge and infection in addition to difficulty in the fitting of hearing aids and giddiness. To overcome these problems, mastoid obliteration is recommended in many cases of canal wall down Mastoidectomy where the size of the cavity may turn out to be large.

Methods: This study demonstrates the authors' technique of the Rambo flap for mastoid cavity obliteration performed in over 120 cases of CWD mastoidectomies.

Conclusion: The Rambo flap is an effective method of mastoid cavity obliteration that limits the size of the final mastoid bowl in CWD mastoid surgeries minimizing revision rates.

Keywords: *canal-wall-down (CWD) mastoidectomy, mastoid obliteration, rambo flap.*

GJMR-J Classification: *NLMC Code: WU 290*

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I. Introduction

The concept of obliteration of the mastoid cavity was first introduced by Mosher in 1911 to promote healing of a mastoidectomy defect[1]. Mosher originally used a superiorly based post auricular soft tissue flap. Kisch described the use of a pedicled temporalis muscle flap that was further expanded on by Rambo[2,3]. Popper described the use of a periosteal flap used to line, rather than obliterate the mastoid cavity[4]. Palva went on to describe a modification of Popper's flap as a musculoperiosteal flap to obliterate the mastoid bowl[5]. Palva further added the use of bone chips and bone pate´ in combination with a musculoperiosteal flap[6]. In addition to bone pate´, other materials that have been described for mastoid obliteration include fat grafts, diced cartilage, fascia, bone chips, and ceramic materials such as hydroxyapatite[7-11].

II. Large Cavity Problems

The primary goal of surgical intervention for chronic ear disease is the development of a safe, dry, low-maintenance and hearing ear[12,13].

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Exteriorization of attic, mastoid and middle ear with a CWD mastoidectomy has a high rate of success in achieving a safe and dry ear[12], but there is a need for continuous inspection of the cavity and a high incidence of moisture resulting in discharge[14]. Persistent moisture, infection, and discharge may cause problems in as many as one-third of patients requiring revision surgery following CWD mastoidectomy[14], which may be attributed to mucosalized surfaces, persistent cell tracts, or poorly ventilated areas opening into the mastoid bowl[13]. Despite careful observation of best practices including mastoid saucerization, removal of the mastoid tip, lowering of the facial ridge, and creation of an adequate-size meatus[15], moisture may still persist in areas of the mastoid bowl leading to stasis of mucoid exudate, localized areas of infection, and underlying mucosal changes.

Open mastoid procedures have been criticized for the unfavorable cosmetic appearance due to a large meatoplasty, the need for regular cleaning, as well as the increased incidence of discharge and recurrent infections[13,16]. These concerns have led some to primarily advocate the use of Canal-Wall-Up (or Intact Canal Wall) mastoidectomies[15], or propose the reconstruction of the ear canal-mastoid partition[17] or obliteration of the mastoid cavity[13,18-20].

III. Techniques for Mastoid Obliteration

Many techniques for mastoid obliteration have been described in the literature. Palva described a meatally based musculoperiosteal flap in combination with the use of cortical bone chips and bone pate´ for mastoid obliteration[5,6]. Moffat and colleagues described the use of bone pate´ and a superiorly based temporalis musculoperiosteal flap for mastoid obliteration[21]. Some authors even advocated the use of mastoid obliteration for canal wall-up mastoidectomy in an attempt to prevent retraction pockets and recurrent cholesteatoma[22,23]. Montandon and colleagues described the use of cartilage to block the aditus and an abdominal fat graft for the canal wall-up mastoidectomy cavity[22]. Gantz and colleagues described reconstruction of the posterior canal wall and mastoid obliteration[24]. Their technique consisted of removal of the posterior bony canal wall with a micro sagittal saw. The mastoid cavity is obliterated with bonepate´ and

bone chips followed by replacement of the posterior canal wall segment. An anteriorly based musculoperiosteal Palva flap is used to cover the obliterated mastoid cavity.

Some authors described the use of the Temporo Parietal Fascial Flap (TPFF) based on the superficial temporal artery for mastoid obliteration. East and colleagues and Cheney and colleagues[25,26] described the successful use of this TPFF flap for mastoid obliteration. It provides an excellent option when standard pedicled muscle or periosteal flaps are not available as in revision cases with scar tissue or in patients with previous irradiation.

There are numerous reports in the literature, of the use of calcium phosphate ceramic granules and hydroxyapatite for mastoid obliteration. Hartwein and colleagues described the use of hydroxyapatite to obliterate the mastoid bowl while reconstructing the posterior canal wall with autologous conchal cartilage[27]. Yung and colleagues in their series describe 34 cases of mastoid obliteration using hydroxyapatite granules and an inferiorly based periosteal flap[28]. Proponents of the use of synthetic materials such as hydroxyapatite point out the minimal resorption of these materialsover time [29]. Mahendran and colleagues describe the use of hydroxyapatite cement for mastoid obliteration[30]. In their study, however, there was a significant incidence of postoperative infection with 50% of the patients requiring revision surgery and removal of the foreign material (hydroxyapatite).

IV. How we do it

A post auricular incision 5mm posterior to the post auricular groove is made. A thorough canal-wall down mastoidectomy is performed and saucerized, adequate lowering of the facial ridge and clearance of all mucosa and squamous epithelium in all the mastoid air cell systems is done. The temporalis muscle is exposed. A postero-superiorly based temporalis muscle flap is fashioned (Fig. 1). The flap receives abundant blood supply mainly from the posterior deep temporal artery which courses upward and backward in the area of the muscle included in the flap. The flap is now rotated into the mastoid cavity and hence used to obliterate the cavity (Fig. 2).

The senior author has performed over 950 mastoid surgical procedures which includes about 360 canal-wall-down (CWD) mastoidectomies in a span of 25 years. He has used the Rambo Flap for obliteration of the cavity in about one third (about 120) of the CWD mastoidectomies where the final size of the cavities appeared too large and necessitated obliteration to reduce the size. The temporalis fascia is then placed over the flap and under the tympanic membrane remnant. An adequate meatoplasty is performed to facilitate good inspection of the thus reduced-size cavity.

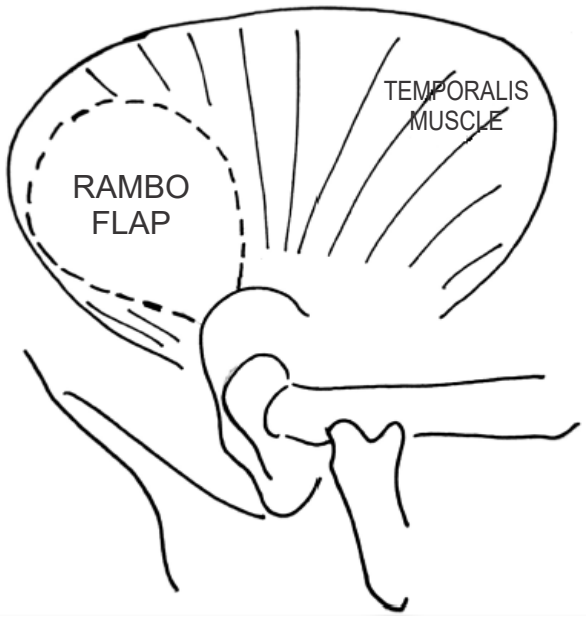

Fig. 1: Schematic Diagram Demonstrating the Fashioning of the Rambo Flap (Right Ear)

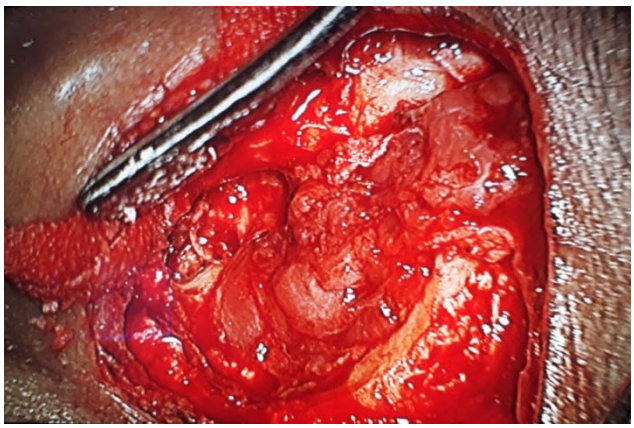

Fig. 2: Intra-operative Photograph of the Rambo Flap on the Left Ear, turned into the Mastoid Cavity for Chieving the Desired Size of the Cavity. Note the Pedicle above the Sino-Dural Angle.

V. Conclusion

In the modern era of ear surgeries, mastoid cavities due to canal-wall-down mastoidectomy are obliterated using various techniques and materials. In our experience, the Rambo Flap, described as early as 1958, is an effective method to obliterate the mastoid cavities in CWD mastoidectomies.

Abbreviations

CWD - Canal-Wall-Down.
TPFF - Temporo-Parietal Fascial Flap.

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Antimicrobial Properties of Jatropha Curcas L. against Dental Pathogens

By Ogechi O. Anyanwu, Peter M. Eze, Elvis I. Nnaoma & Kenneth G. Ngwoke

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Abstract- This research is aimed at investigating the in vitro antimicrobial activities of Jatropha Curcas twigs against dental carries-causing bacteria. The methanol/methyl chloride crude extract of J. Curcas twigs was fractionated into aqueous, n-hexane, ethyl acetate, and butanol fractions. Using the agar well diffusion and the agar dilution methods, the antimicrobial activities of plant fractions were determined against strains of Streptococcus mutans isolated from dental swabs from patients with dental caries. The ethyl acetate fraction showed best antimicrobial activity with a minimum inhibitory concentration (MIC) of 6.25 mg/ml, followed by the butanol and n-hexane fractions, both with MICs ≥ 25 mg/ml against S. mutans . The aqueous fraction showed no activity against all strains of S. mutans tested. The result of our study reveals that J. Curcas twig possesses antimicrobial against dental caries-causing bacteria strains. This justifies the folkloric use of the plant twigs in oral hygiene as a chewing stick/toothbrush for the prevention of dental caries.

Keywords: jatropha curcas, antimicrobial activity, streptococcus mutans, dental caries.

GJMR-J Classification: NLMC Code: WU 350

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Antimicrobial Properties of Jatropha Curcas L. against Dental Pathogens

Ogechi O. Anyanwu [α], Peter M. Eze [σ], Elvis I. Nnaoma [ρ] & Kenneth G. Ngwoke [ω]

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Keywords: jatropha curcas, antimicrobial activity, streptococcus mutans, dental caries.

I. Introduction

Jatropha Curcas Linn (Euphorbiaceae) is a drought-resistant small tree or large shrub, widely distributed all over the world (Grace et al., 2009; Openshaw, 2000). Various parts of J. Curcas have been used in traditional medicine as a lactagogue, rubefacient, suppurative, purgative, abortifacient, haemostatic, and anthelmint; and for the treatment or prevention of fevers, convulsions, venereal diseases, constipation, skin diseases, rheumatism, malaria, diabetes, wounds, snake bites, haemorrhoids, amenorrhoea and oligomenorrhoea, jaundice and liver troubles (Asase et al., 2005;Wole and Ayanbode, 2009; Iwu, 1993; Watt and Breyer-Brandwijk, 1962; Sharma et al., 2010; Udayan et al., 2007; Jain and Srivastava, 2005; Neuwinger, 1996; Morton, 1981; Abdelgadir and Van Staden, 2013).

Juices, pastes, decoctions, or other preparations of the plant have been used for oral hygiene in the prevention and treatment of toothaches, mouth ulcer, cracked lips, bleeding gums, carious teeth (Verma and Chauhan, 2007; Silja et al., 2008; Iwu, 1993; Duke and Ayensu, 1985; Yesodharan and Sujana, 2007; Jain and Srivastava, 2005; Rajendran et al., 2008). The twigs of J. Curcas are chewed to prevent pyorrhea, gum and teeth problems, and are used as a toothbrush (Jain and Srivastava, 2005; Dolui et al., 2004).

The twigs of J. Curcas are used in different communities of Imo State, Nigeria as chewing sticks (toothbrushes) for the prevention of pyorrhea and tooth decay (Anyanwu et al., 2018). However, there is paucity of scientific data to validate the folkloric use of J. Curcas for oral hygiene. Our study, therefore, is aimed at evaluating the antimicrobial properties of the plant against human dental caries-causing bacteria.

II. Materials and Methods

a) Plant Collection

The twigs of Jatropha Curcas were collected in June 2014 from Umuocham, Amudi-Obizi, Imo State, Nigeria. The plant was identified, authenticated, and deposited under the voucher number: PCG423A/022 at the Department of Pharmacognosy and Traditional Medicine, Faculty of Pharmaceutical Sciences, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

b) Plant Extraction and Fractionation

The twigs of J. Curcas were cut into smaller pieces and pulverized. The pulverized twig was extracted by cold maceration for 48 hours using methanol/methyl chloride combination in a ratio of 2:1. The crude extract was filtered using Whatman No.1 filter paper and concentrated to dryness under vacuum at 45°C using a rotary evaporator. Liquid-liquid fractionation of the methanol/methyl chloride crude extract was carried out in a 500 mL separation funnel by dissolving 20 g of the extract in 250 mL of distilled water and then successively adding n-hexane, ethyl acetate, and butanol in increasing order of their polarities. The fractions so obtained were filtered, and then concentrated under pressure 45±5°C. The water fraction was freeze-dried to dryness.

c) Test Organisms

Four strains of Streptococcus mutans (S. mutans 1, 2, 3 and 4) were used in this study. These were clinical isolates obtained from dental swabs of patients with dental caries at the Federal School of Dental Technology and Therapy, Trans-Ekulu, Enugu, Nigeria. The isolates were maintained in Columbia blood

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agar base (Oxoid, UK) (supplemented with 5% sheep blood).

d) Primary Antimicrobial Screening of Fractions of J. Curcas Crude Extract

The antibacterial activity of the fractions of J. Curcas crude extract against the test isolates was determined by the agar well diffusion method as described by Akpotu et al. (2017). Dilutions of 50, 25, 12.5, 6.25, 3.125 and 1.5625 mg/mL were prepared by dissolving the samples in DMSO (100% v/v). Twenty (20) mL of molten Mueller Hinton agar was poured into sterile Petri plates (90 mm) and allowed to set. Standardized concentrations (1.5 x10^8 CFU/mL) of overnight cultures of the test isolates were swabbed aseptically on the agar plates, and holes (6mm) were made in the agar plates using a sterile metal cork-borer. A volume of 20 µl of the various dilutions of the samples and controls were put in each hole under aseptic conditions. DMSO (100% v/v) was used as the negative control, while gentamicin (10 µg/mL) was used as the positive control. The Petri plates were then incubated at 37°C for 24 h, and the inhibition zones diameters (IZDs) were measured using a metre rule. The size of the cork borer (6 mm) was deducted from the values recorded to get the actual IZDs. The procedure was conducted in duplicate and the mean IZDs were calculated and recorded.

e) Determination of Minimum Inhibitory Concentrations (MICs)

Minimum inhibitory concentration (MIC) is defined as the lowest concentration of the antimicrobial agent that inhibits the bacterial growth. The MIC of the fractions of J. Curcas crude extract on the test isolates was determined using the agar dilution method previously described by Akpotu et al. (2017). Dilutions of 250, 125, 62.5, 31.25, and 15.625 mg/mL were prepared by dissolving the samples in DMSO (100% v/v). Agar plates were prepared by pouring 4 mL of molten double strength Mueller Hinton agar into sterile Petri dishes containing 1 mL of the various dilutions of the samples making the final plate concentrations to become 100, 50, 25, 12.5, 6.25, 3.125, and 1.5625 mg/mL. Standardized concentrations (1.5 x10^8 CFU/mL) of overnight cultures of the test isolates were streaked onto the surface of the agar plates containing the different dilutions of the samples. The plates were then incubated at 37°C for 24 h after which all plates were observed for growth. The minimum dilution (concentration) of the plant fractions completely inhibiting the growth of each organism was taken as the MIC.

III. Results and Discussion

Fractionation of the crude methanol/methyl chloride extract of J. Curcas twigs yielded four fractions - aqueous, n-hexane, ethyl acetate and butanol fractions. The antimicrobial activities of the various fractions were determined against strains of S. mutans isolated from dental carries patients (Tables 1-5).

The ethyl acetate fraction showed considerable antimicrobial activity against S. mutans at concentrations ranging from 6.25-100 mg/mL, with IZDs of 3-8 mm (Table 1). The butanol fraction was active at 25-100 mg/mL with IZDs of 2-6 mm (Table 2). Antimicrobial activity of the n-hexane fraction was recorded at 50-100 mg/mL with IZDs of 2-6 mm (Table 3). The aqueous fraction showed no antimicrobial activity at the concentrations tested (Table 4).

The MICs of the extract and fractions of the plant against the test isolates ranged from 6.25-100 mg/mL (Table 5). The lowest MIC (6.25 mg/mL) was recorded for the ethyl acetate fraction. MICs ranging from 25-100 mg/mL were recorded for the butanol and n-hexane fractions. No MIC value was recorded for the aqueous fraction.

Table 1: Antimicrobial Activity of J. Curcas Ethyl Acetate Fraction against S. Mutans

Concentrations (mg/mL)	Inhibition Zone Diameters (mm)			
	S. Mutans 1	S. Mutans 2	S. Mutans 3	S. Mutans 4
100.00	6	6	7	8
50.00	5	5	6	7
25.00	3	3	4	6
12.50	2	2	2	5
6.25	0	0	0	3
3.16	0	0	0	0
1.56	0	0	0	0
Gentamicin (10 µg/mL)	24	18	22	24
DMSO	0	0	0	0

Table 2: Antimicrobial Activity of J. Curcas Butanol Fraction against S. Mutans

Concentrations (mg/mL)	Inhibition Zone Diameters (mm)			
	S. Mutans 1	S. Mutans 2	S. Mutans 3	S. Mutans 4
100.00	2	2	3	6
50.00	0	0	1	4
25.00	0	0	0	2
12.50	0	0	0	0
6.25	0	0	0	0
3.16	0	0	0	0
1.56	0	0	0	0
Gentamicin (10 µg/mL)	24	18	22	24
DMSO	0	0	0	0

Table 3: Antimicrobial Activity of J. Curcas N-Hexane Fraction against S. Mutans

Concentrations (mg/mL)	Test Organisms			
	S. Mutans 1	S. Mutans 2	S. Mutans 3	S. Mutans 4
100.00	3	2	3	4
50.00	1	0	2	2
25.00	0	0	0	0
12.50	0	0	0	0
6.25	0	0	0	0
3.16	0	0	0	0
1.56	0	0	0	0
Gentamicin (10 µg/mL)	24	18	22	24
DMSO	0	0	0	0

Table 4: Antimicrobial Activity of J. Curcas Aqueous Fraction against S. Mutans

Concentrations (mg/mL)	Test Organisms			
	S. Mutans 1	S. Mutans 2	S. Mutans 3	S. Mutans 4
100.00	0	0	0	0
50.00	0	0	0	0
25.00	0	0	0	0
12.50	0	0	0	0
6.25	0	0	0	0
3.16	0	0	0	0
1.56	0	0	0	0
Gentamicin (10 µg/mL)	24	18	22	24
DMSO	0	0	0	0

Table 5: Minimum Inhibitory Concentrations (MIC) of the Fractions Determined against Test Organisms

Test Organisms	MICs (mg/mL)			
	Ethyl acetate Fraction	Butanol Fraction	Aqueous Fraction	n-Hexane Fraction
S. Mutans 1	12.5	100	-	50
S. Mutans 2	12.5	100	-	100
S. Mutans 3	12.5	50	-	50
S. Mutans 4	6.25	25	-	25

Dental caries, also known as also known as a cavity or tooth decay, is the destruction of enamel, dentin or cementum of teeth due to bacterial activities, which if left untreated can cause considerable pain, discomfort, and treatment costs are very high. Colonization of teeth by cariogenic bacteria is one of the most important risk factors in the development of dental diseases with S. mutans being the primary species associated with the early dental caries process (Maripandi et al., 2011).

Maintaining proper oral hygiene, which includes brushing with fluoridated toothpaste and a toothbrush, cleaning or flossing between teeth and gums, is known to inhibit the development of dental caries.

Despite the widespread use of toothbrushes, natural methods of tooth cleaning using chewing sticks prepared from the twigs, stems or roots from a variety of plant species have been practiced for thousands of years in different parts of the world including Africa. Also, since conventional dental treatment usually is expensive and not so easily accessible, especially in developing countries, many have turned to the use of chewing sticks to prevent dental caries. Various clinical studies have shown that these chewing sticks, when properly used, can be as efficient as toothbrushes in removing dental plaque due to the combined effect of mechanical cleaning and enhanced salivation (Jyoti et al., 2017; Al-Otaibi, 2004; Wu et al., 2001; Akpata and Akinrimisi, 1977; Homer et al., 1990).

It has been observed that the use of chewing sticks help to inhibit the growth of oral pathogens associated with development of dental caries, gingival and periodontal diseases. During cleaning anti-microbial constituents may get released in the oral cavity and protect teeth and its associated parts against oral microbes (Chandana et al., 2017; Enwonwu, 1974).

The ethyl acetate fraction showed best antimicrobial activity with a minimum inhibitory concentration (MIC) of 6.25 mg/ml, followed by the butanol and n-hexane fractions, both with MICs ≥ 25 mg/ml against S. mutans. The antimicrobial activity elicited by the ethyl acetate fraction of J. Curcas against the four strains of S. mutans (Tables 2) suggests that the fraction contains important antibacterial compounds that would useful in the treatment of dental pathogens.

Several antimicrobial secondary metabolites of J. Curcas has been reported, and these include Jatropha factor C1 (Hass et al., 2002); Palmarumycins JC1 and JC2 (Ravindranath et al., 2004); and Taraxasterol (Mitra et al., 1970). These compounds may be responsible for the antibacterial activity of the plant against the strains of S. mutans used in this study.

IV. Conclusion

The results of our study show that J. Curcas twig exhibits antimicrobial activity against dental caries-causing bacteria strains. These findings give a scientific insight into the traditional use of J. Curcas twigs as chewing stick; a practice believed to prevent dental caries.

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Evaluation of the Parameters of the Lipid Peroxidation and Blood System of Blood and Saliva in Patients with Diseases Mucous Membrane of the Oral Cavity and Periodontal Pathology of the Hepatobiliary System

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Abstract- The intensity of free-radical processes (SRP) and the activity of antioxidant systems (AOS) in the saliva and plasma of people with pathology of the pathobiliary system were studied. Significant shifts in the dynamics of the investigated parameters were observed in diseases of HBS, with more pronounced changes occurring in the saliva. The presence of the detected changes in the examined individuals in the plasma and in the saliva of the studied parameters testify to the advisability of studying saliva in diseases of HBS and the prospects of using saliva as an object for early diagnosis.

Keywords: diseases of the hepatobiliary system, plasma, saliva, free radical processes, antioxidant system.

GJMR-J Classification: NLMC Code: WU 350

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MalikaKh. Ibragimova [α] & Khaydar P. Kamilov [σ]

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Keywords: diseases of the hepatobiliary system, plasma, saliva, free radical processes, antioxidant system.

I. Introduction

The study of oral fluid in many clinical and biochemical indicators has advantages over routine methods of laboratory blood test obtained from the finger or from the vein, the use of oral liquid is safe, monitoring and use by patients for self-monitoring is possible.

Oral fluid provides the body with an external and internal environment [1,2,3,8]. The composition of oral fluid includes both organic and inorganic components of salivary glands, blood serum and tissues of the oral cavity. This makes it possible to study the exchange rates in the oral fluid during screening surveys (Noskov, 2008). Most researchers study the composition and properties of the oral fluid for various dental diseases. However, less attention is paid to changes in the biochemical parameters of the oral fluid in somatic diseases. In this regard, we had to get answers to the questions: does the biochemical composition of the oral fluid adequately reflect that in the blood serum of practically healthy individuals and whether pathology of the hepatobiliary system makes any changes to this relationship.

Gallstone disease (SCI) is a disease of the hepatobiliary system caused by a violation of cholesterol metabolism [4, 5]. The following factors can be attributed to the main factors of the risk of developing a CSW: genetic, demographic, dietary, and medical. As is known, certain changes in the internal environment and cell structures can serve as a signal for triggering a stress reaction in the body.

According to some authors, such a signal is the shift of pro-oxidant-antioxidant balance in the direction of activation of lipid peroxidation (LPO) in biological membranes and fluids [6,7,8,9,10,11]. Activation of LPO is a universal means of influencing a living system of a variety of extreme agents, and is the result of increased oxidative catabolism of complex organic structures. Thus, arose the concept of "oxidative stress", actively discussed in the literature.

To understand the development of free radical processes in the body and the functioning of antioxidant systems, the study of saliva as the most accessible for analysis of the body's biological fluid is promising. In saliva, a number of biologically active compounds have been discovered, including hormonal and mediator nature, which are regulators of the intensity of free radical processes and components of antioxidant systems, the biological role of which is largely unclear. Between saliva and blood plasma there is a close metabolic contact due to the exchange of many compounds. At the same time, the salivary glands possess a powerful own biosynthetic apparatus. We believed that the establishment of the relationship between the intensity of free radical processes and the activity of antioxidant systems in the blood and saliva will promote the wider use of saliva for their evaluation.

The purpose of this study is to assess the level of free radical oxidation (SRO) and the effectiveness of antioxidant systems (AOS) of saliva and blood of patients with diseases of the hepatobiliary system.

II. Material and Methods of Investigation

On the basis of the Department of Hospital Therapeutic Dentistry of the Tashkent State Dental

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Institute, we examined a group of patients with chronic recurrent aphthous stomatitis against the background of the pathology of the hepatobiliary system, namely chronic cholecystitis, consisting of 27 men and women aged 45 to 65 years. In the history of patients, pain in the right side was noted and ultrasonography of the study showed chronic cholecystitis. The second group consisted of 22 practically healthy people aged 25-40 years (control group).

Blood sampling was performed in the morning on an empty stomach by puncturing the ulnar vein with a needle with a wide light without a syringe, from which plasma was subsequently obtained. Saliva sampling was also performed in the morning before eating, having previously offered patients to rinse the oral cavity with a physiological solution.

Blood plasma and saliva of patients and donors were determined by the maintenance of malonicdialdehyde (MDA), catalase and a native smear of saliva. The MDA was determined by its reaction with thiobarbituric acid. The anti-radical system (AMA) includes both extracellular superoxide dismutase (SOD) and other components that eliminate the superoxide radical (steroids, catecholamines, arginine). The ASA was evaluated by the ability of the SOD to inhibit the reduction of nitrosinetetrazolium. The catalase activity was determined by the ability of hydrogen peroxide to form a colored complex with molybdenum salts. The total protein content was determined by Lowry. Due to a possible change in the water content of the saliva, the activity of the enzymes was calculated on the protein content.

The statistical processing of the results was carried out using Student's t-criterion on a computer with the use of a modern package of STATSOFT Statistica 6.0 statistical analysis.

III. Results and Discussion

At present, non-invasive methods of obtaining biological material acquire an increasing importance for diagnostics. In this regard, studies of various processes in saliva can be very promising for modern medicine and biochemical practice.

Cytological study of the native preparation in patients with the disease of the hepatobiliary system, prepared from the saliva of patients, showed a large number of flat epithelium (on average in 86% of individuals), which is associated with desquamation of the epithelium and its active regeneration. 12% of individuals in the native smear have a large number of leukocytes, apparently due to chronic inflammatory disease of the oral mucosa (chronic recurrent aphthous stomatitis) and periodontium(chronic generalized catarrhal gingivitis).

The analysis of the parameters of the LPO and AOS system in blood and saliva in the examined persons presented in Table 1 indicates an increased generation of active forms of oxygen (ROS) in saliva more pronounced than in blood plasma.

The primary molecular products of POL-DK are very unstable compounds that quickly transform into a more stable product, malonicdialdehyde (MDA), whose concentration in the blood plasma increases by 31%.In our opinion, lipid peroxidation in liver hepatocytes leads to accumulation of lipoproteins and inhibits the key enzyme of catabolism of cholesterol in the liver-microsomal 7a-hydroxylase, which disrupts the enzymatic regulation of cholesterol metabolism and leads to the maintenance of its stably high level in the blood. Under these conditions, hepatocytes can secrete very low-density lipoproteins (VLDL) into the bloodstream, including oxidized low-density lipoproteins (LDL), which undergo oxidative destruction with the formation of MDA.

The accumulation in the plasma of aldehydes - secondary products of LPO, can be evidence of enhanced generation of active forms of oxygen (ROS) and activation of LPO in the liver. Oxidative stress is developing - the most important universal pathogenetic mechanism of the course of many diseases. In this condition, AFCs are given a double blow to the focus of inflammation. On the one hand, AFC activates LPO, new AOCs are formed by the mechanism of the arachidonic cascade and MDA formed from arachidonic acid is accumulated MDA and the more toxic secondary product POL-4-hydroxynonenal exert their cytotoxic effect on the lipid layer of biomembranes, leading to a disruption of the bioenergetics of the cells, a decrease in plasticity and an increase in microviscosity, and inactivation of membrane enzymes. On the other hand, ROS (especially O^{2-} and NO) with significant cell damage can activate the nuclear protein P-53, stimulating apoptosis of the cell.

As can be seen from the results of the studies, the catalase activity based on the volume of biological fluids was significantly lower in saliva at the inverse ratio, expressed in units of activity per gram of protein. The level of SUA in saliva, both in terms of volume and per gram of protein, was significantly higher in saliva than in blood plasma. In the latter case, the indicator had a negative sign, which indicates additional generation of superoxide radicals in samples containing blood plasma in comparison with control variants in which biological material was absent. Since ASA is an integral indicator, its increase in saliva under emotional stress can occur due to the inclusion of one or more mechanisms: the biosynthesis reactions of antioxidant compounds that make up SAS directly in the salivary glands, the effect of catecholamines or glucocorticoids, and also through the exchange of ASA components between biological fluids.

Thus, as follows from our findings, with cholelithiasis (LCB), an increase in lipid peroxidation activity is observed with an increase in MDA in the

plasma and in the saliva of the patients being examined in comparison with donors. One of the real explanations of this phenomenon can be an increase in the activity of the main regulators of SRO - enzymatic and non-enzymatic antioxidants, their active work and powerful compensatory mechanisms of the body in healthy individuals. The main task of functioning of antioxidants is the maintenance of a certain balanced level of AFK, the homeostasis between pro- and antioxidant systems. A key role in the regulation of the level of ROS and, in particular, O2- and in the blood plasma is performed by an antioxidant defense enzyme-extracellular superoxide dismutase (SOD) and catalase.

Thus, the decrease in the activity of antioxidant enzymes detected by us indicates depletion of this system in the examined patients. In addition, depletion of the level of antioxidants can also be an indirect indicator of the activation of the inflammatory process, since the triggering of the generation of ROS and LPO products is the primary mediators of oxidative stress. The alternation of the processes of mutual enhancement and quenching (inflammation and activation of SRO, as well as inhibition of antioxidants) creates conditions for asymptomatic course of the CLS within 15-20 years before the first forced visit of the doctor.

Table 1: The Intensity of Free Radical Processes (SRP) and the Activity of the Antioxidant System (AOS) in the Blood Plasma and Saliva of Practically Healthy People and Patients with Heart Failure.

Investigated Indicators	Healthy Persons (Control) = 22		Patients with Chronic LCBn = 27 Cholecystitis	
	Plasma	Saliva	Plasma	Saliva
SUA U / g Protein	50,93 ± 9,51	5,35 ± 0,62	35,11± 2,84*	3,14 ± 0,21*
MDA, μm	3,74 ± 0,21	2.02 ± 0,14	4.91 ± 0,13*	2,68 ± 0.14*
Catalase, mM / g Protein	0,55 ± 0,02	0,041 ± 0,01	0,34 ± 0,07*	0,015 ± 0,02*

*Note: * The reliability of the differences P < 0.05*

The data obtained by us testify to the greater informativeness of the determination of the activity indices of SRP and antioxidant systems in saliva in comparison with blood plasma.

Taking into account the complex pathogenetic mechanism of the development of the FSW in the pathology of the hepatobiliary system, it seems to us necessary to carry out a rigorous analysis of clinical and biochemical indices, without neglecting the study of LPO intensity, as well as the level of antioxidants, while taking into account the basic mechanisms of their activation and finding out the reasons for this balancing pro-states and antioxidant systems.

Ultimately, it can help to establish a more accurate diagnosis and early detection of multiple complications of the CSF, not allowing critical states of the organism, when there is already a real threat to human health and life. The position on the protective role of antioxidant systems of saliva from active forms of oxygen and LPO for the mucous membrane of the oral cavity under pathological conditions of the organism is substantiated.

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Nasal Biphenotypic Sino-Nasal Sarcoma in a Young Female - A Diagnostic Dilemma

By Dr. Hussein Al Zamel, Dr. Sheikha Alkhudher & Dr. Imtiyaz Nawaz Bhat

Damascus University

Abstract- Introduction: We report a case of sino-nasal sarcoma (SNS) which is a rare malignant tumor that forms in the nasal structure and only a few cases that were reported in the literature.

Case Report: The patient was a 35 years old woman. She presented with a history of right nasal obstruction from a couple of months at the time of presentation and recent attacks of epistaxis. Diagnosis of SNS was made after careful history taking, Computed tomography (CT) scan and confirmed by a secondary biopsy histology report that was done in Harvard Medical school. The patient underwent surgery and the mass was excised endoscopically. Her symptoms have improved significantly and after two years follow up there was no recurrence of the tumor.

Discussion and Conclusion: In conclusion, Biphenotypic Sino-nasal sarcoma is a very rare and newly diagnosed entity. However, it should be kept in mind while dealing with any suspicious nasal masses in patients especially in females.

Keywords: biphenotypic sino-nasal sarcoma (SNS), nasal cavity, PAX3 and MAML3.

GJMR-J Classification: NLMC Code: WV 300

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I. Introduction

Sinonasal sarcoma (SNS) is a rare malignant tumor that forms in the nasal structures and it primarily affects women. This new form of cancer could pose surgical problems because it can spread throughout the facial structures if not detected early. Researchers at the Mayo Clinic discovered that when the genes PAX3 and MAML3 manage to combine, the result is a chimera that causes biphenotypic sinonasal sarcoma. The current available treatment for this tumor is a possible disfiguring facial surgery. However, new drugs are being manufactured to target this specific tumor.1,2

The tumor begins in the nasal cavity and has the potential of spreading toward the rest of the face, typically in an outward fashion from each side of the nostrils. The research on this cancer began in 2004, when two Mayo Clinic pathologists noticed unusual tumor sample they were examining. They began collecting more data on the cancer in 2009 after they had seen more cases. By 2012 they published their discovery on biphenotypic sino-nasal sarcoma. The Mayo Clinic's most recent study in SNS, "Recurrent PAX3-MAML3 fusion in biphenotypic sino-nasal sarcoma" was published in the journal Nature Genetics. The researchers are particularly interested in this cancer's potential as a disease model. Its rare makeup could lead to a better understanding of other cancer's such as alveolar rhabdomyosarcoma which is a common cancer found in children, that has similarities to the PAX3-MAML3 chimera1,2.

The SNS phenotype is characterized by aberrant expression of Genes involved in neuro-ectodermal and myogenic differentiation closely simulating the development roles of PAX3.

Finally, this paper has been reported in line with the SCARE criteria.8

II. Case Report

A 35 years old female presented to our clinic with a history of right nasal obstruction of two months at the time of presentation with recent attacks of epistaxsis.

On examination, the patient showed widening of the nasal dorsum and telecanthus, her vision and ocular movements were normal. On anterior rhinoscopy a large pinkish mass was seen filling the Right nasal cavity pushing the septum to opposite side. The posterior rhinoscopy showed the same mass confined within the right posterior chonae.

CT Scan of the nose and paranasal sinuses (PNS) revealed an enhancing mass arising from the right ethmoidal labyrinth and pushing the septum to the opposite side with expansion of the medial wall of maxilla. The mass was seen extending into posterior chonae and indenting the medial orbital wall with no bony disruption, there was no extension of the tumor into the anterior cranial fossa (Fig 1).

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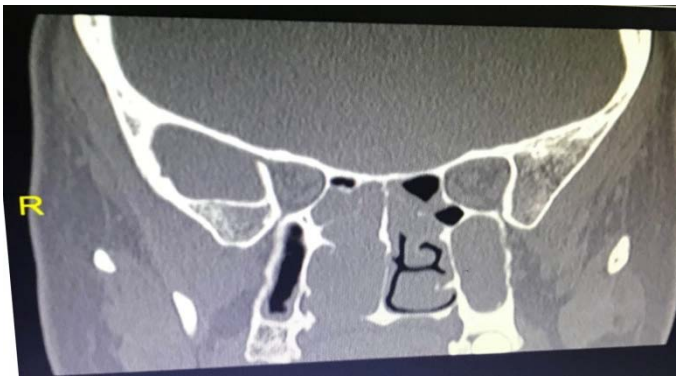

Fig. 1a

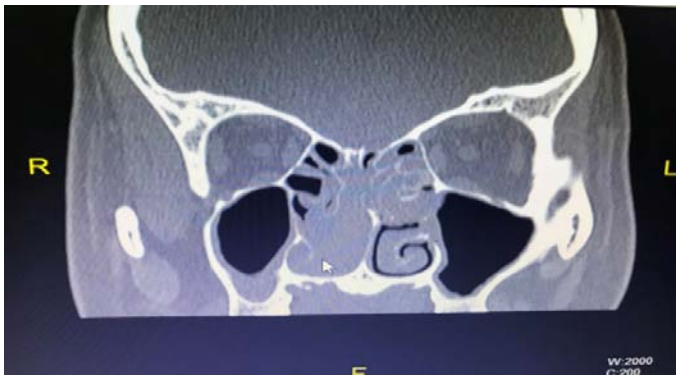

Fig. 1b

Fig. 1a and 1b: Computed Tomographic Scan of Nose and Paranasal Sinuses Showing Enhancing Soft Tissue Density Lesion along the Lateral Nasal Wall on the Right Side at the Region of Middle Meatus, Indenting the Medial Orbital Wall

Due to the accessibility of the mass anteriorly a punch biopsy was taken which caused profuse bleeding that was controlled with anterior nasal packing. The pack was removed after 24 hours.

Histopathological examination of the biopsy showed features of juvenile angiofibroma, rarity of such tumors in a female prompted us to have slides reviewed, which was reported the same.

The patient was prepared for surgery and a request for angiography and embolization was sent, the report of angiography was reported as no definitive feeding vessel was found. Endoscopic excision was done. A firm large pinkish mass was found arising from the lateral wall of the nose in the anterior ethmoidal region, which was in sharp contrast to its origin from the sphenopalatine area. Then, the tumor was mobilized and removed en-bloc by avulsing it from its attachment laterally (Fig 2). During the operation, there was bleeding that was controlled by anterior and posterior nasal packing, which was removed after 24 hours. The postoperative period of the patient was uneventful and the patient was discharged on the 5th postoperative day.

Histopathological examination result of specimen was initially reported as Angiofibroma. The rarity of angiofibroma in females and a doubt in certain slides compelled our chief pathologist to get specimens reviewed at Harvard Medical School and they diagnosed it as one of the rare and newly discovered entity i.e. Biphenotypic Sinonasal Sarcoma (SNS).

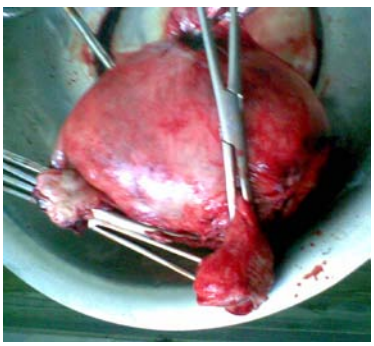

Fig. 2: En-Bloc Specimen of the Tumor.

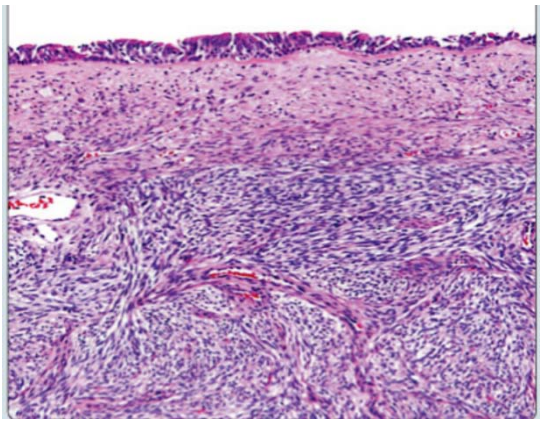

Fig. 3: Histopathological Examinations of the Excised Specimen Showed Features Compatible with Diagnosis of SNS (Nasal Biphenotypic Sinonasal Sarcoma) Showing Poorly Circumscribed, Unencapsulated, Infiltrative, Fascicular Growth with Herringbone Architecture, with Mitotic Figures and Necrosis

III. Discussion and Review of Literature

Sinonasal sarcoma (SNS) is a rare malignant tumor that forms in the nasal structures and it primarily affects women. This new form of cancer could pose surgical problems because it can spread throughout the entire face if not detected early.

While angiofibromas are uncommon fibrovascular tumors almost exclusively arising from the postnasal space in young adolescent males and are also referred as juvenile nasopharyngeal Angiofibromas. The tumor though benign is locally aggressive. The first recorded description of this fibrovascular tumor like lesion was by Chelius in 1847, however review of literature reveled that their removal was practiced by Hippocrates.1

Since both tumors share the same anatomical area, this poses a great challenge in diagnosing them as the treatment plan and prognosis are quite different. Where sino-nasal sarcoma is a malignant disease as the

tumor begins in the nasal structures and has the potential of spreading toward the rest of the face, typically in an outward fashion from each side of the nostrils. Whereas angiofibroma accounts for less than 0.5% of all the neoplasms of head and neck and occurs exclusively in adolescent males, however the disease can occur in females though very rare.1,2

Although few cases of SNS have been reported in females. The research on this cancer began in 2004, when two Mayo Clinic pathologists noticed something peculiar about a tumor sample they were examining. They began collecting more data on the cancer in 2009 after they had seen in a few more times. By 2012 they published their discovery.

IV. Conclusion

While Biphenotypic Sino-nasal sarcoma is a very rare and newly diagnosed entity it should be kept in mind while dealing with any suspicious nasal masses in patients especially in females. Early detection and Complete excision is the key in the management of this rare disease. Although being malignant, the prognosis is relatively good. In our patient, there was no recurrence at 2 years follow up. Nevertheless, she still needs more follow up in the future and more data needs to be collected in such cases to understand this rare malignant tumor better.

Compliance with Ethical Standards

Conflicts of Interest

No conflict of interest to declare by any of the authors.

Funding

None.

Ethical Approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available and can be reproduced whenever needed.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institution.

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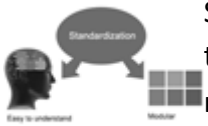

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11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. 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 for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

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

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

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

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon 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 for 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 of 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 criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to 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 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 avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

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

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite 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 approaches 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. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a 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 limit the initial two items to no more than one line each.

Reason for writing the article—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 for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity 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 of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets 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 for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory 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 soundly written procedures segment allows a capable scientist to replicate 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 to give the least amount of information that would permit another capable scientist to replicate 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 section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show 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:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the 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—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and 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 as 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. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give 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 manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit 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 section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an 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 implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully 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 the prospect, and let it drop at that. Make a decision as to whether each premise is supported or 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 an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of 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 other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

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

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.

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

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