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Surgeries and Cardiovascular System

Good Prognosis of ALCAPA

Post ACL Reconstruction Surgery

Highlights

The Rare Presentations of Bowel

Chemical Management of Anal Fissure

Discovering Thoughts, Inventing Future

VOLUME 18 ISSUE 3 VERSION 1.0

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Immediate and Short Term Effect of Combination Physical Therapy and Manual Therapy in Post ACL Reconstruction Surgery Displaced Mal-Alignment of the Joint. An Invivo Clinical Trial

By Ketan Bhatikar, Satyam Bhodaji & Suraksha Shanbag

Head of Research Department, SPARC

Abstract- Post ACL Reconstruction surgery displaced mal-alignment of the joint due to re-injury is rare and difficult to treat the condition, especially in young adult and old age when they develop kinesiophobia (fear of pain due to movement) and pain. During this time if re-surgery is not appreciated physical therapy has to play a very important role in the rehabilitation. Combination of different physiotherapy protocols has to be taken into consideration by the well-experienced therapist to show the immediate effect on the pain and other symptoms to build the confidence of the patient during the therapy. In the present study we used the combination of soft tissue myofascial release technique with MT2 blade, mobilization with belt and manual followed by Kinesio tapping to see the immediate effect. Active exercise therapy was included to carry-on the strengthening and to see short-term effect of the entire Physiotherapy protocol. The present study suggested beneficial effects in combination of physiotherapy treatment protocols.

GJMR-I Classification: FOR Code: NLMC Code: WE 312

Immediate and Short Term Effect of Combination Physical Therapy and Manual Therapy in Post ACL Reconstruction Surgery Displaced Mal-Alignment of the Joint. An Invivo Clinical Trial

Ketan Bhatikar [α], Satyam Bhodaji [σ] & Suraksha Shanbhag [ρ]

Abstract- Post ACL Reconstruction surgery displaced mal-alignment of the joint due to re-injury is rare and difficult to treat the condition, especially in young adult and old age when they develop kinesiophobia (fear of pain due to movement) and pain. During this time if re-surgery is not appreciated physical therapy has to play a very important role in the rehabilitation. Combination of different physiotherapy protocols has to be taken into consideration by the well-experienced therapist to show the immediate effect on the pain and other symptoms to build the confidence of the patient during the therapy. In the present study we used the combination of soft tissue myofascial release technique with MT2 blade, mobilization with belt and manual followed by Kinesio tapping to see the immediate effect. Active exercise therapy was included to carry-on the strengthening and to see short-term effect of the entire Physiotherapy protocol. The present study suggested beneficial effects in combination of physiotherapy treatment protocols.

I. Introduction

Anterior cruciate ligament is known to be one of the key structures in the knee and one of the commonest injured or sprained ligament in the body. Not only in sports but it has the highest prevalence in any other normal human being. Most common risk factors seen are due to sudden changing of direction, stopping suddenly, and landing from height or incorrectly jumping and direct contact or collision during any fall[1]. A study done by Hideyuki Koga et al. proposed a new mechanism of injury that believes ACL ruptures take place within the first 40 minutes after initial ground contact. Due to the unchanged hip joint angle at an initial position lateral knee compression causes valgus loading. The anterior force vector causes quadriceps contraction. Displacement of the femur relative to the tibia takes place and the lateral femoral condyle shifts posteriorly due to the joint geometry. Tibia translates anteriorly and rotates internally, thereby resulting in ACL rupture[2].

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Though there have been many recent advances in ACL Reconstruction surgery's and rehabilitation there is less explanation of the same during the re-injure phase and kinesiophobia. A study finding suggested that young patients are at high risk of sustaining a second ACL injury within 24 months after ACLR[3]. Reasons may be many of which age, sex, knee-related confidence, and performance on the triple hop for distance were mentioned as the primary predictors of a second ACL injury[4]. Another study concludes that there is a high prevalence (61.69%) of kinesiophobia in Young adults post ACL reconstruction for 4 to 8 weeks[5]. The second injury after the primary ACL reconstruction and rehabilitation goes under different positioning of the underline structures. Also, it is difficult to reconstruct and rehabilitate again due to more kinesiophobia and pain. Another study suggests diminished knee related quality of life and social reasons or psychological hindrances such as fear of re-injury may influence return to sports or other daily activities[6,7]. In the present study to present the pre influence of kinesiophobia related to re-injury of the knee was recorded by The Tampa Scale of Kinesiophobia (TSK). The same scale was used to see the post influence during and after the treatment. This scale measures patients' fear of movement[8,9].

Combinations of physical therapies have always shown good results than selecting and deciding to go with a one-line treatment. It is the crucial point where the therapist should be highly experienced to detect which structures are injured and need treatment along with how to carry and which all techniques to be include in the therapy with the concern of the patient convenience and financial status. In the present case, patient was also had kinesiophobia along with nerve entrapment which made the decision difficult to build his confidence to cooperate with active and resisted treatments such as weight-bearing exercise and gait training. We so decided to go with Instrument-assisted soft tissue mobilization (IASTM) for stiffness and pain followed by cryotherapy. We used the M2T blade which is a newly designed Instrument-assisted soft tissue mobilization

(IASTM) that is three dimensional analytic and treatment tool, enables clinicians to assess, detect, and treat individuals diagnosed with scar tissue, adhesions, and soft tissue dysfunction[10,11]. Knee mobilization was included with and without mobilization belt as to free the joint range and nerve entrapment. Many studies give different finding why mobilization is so-important in postoperative cases of any joints especially knee joint. One of most is that Joint mobilization may assist in reducing pain and increasing joint range by passive oscillatory movements of small or large amplitude and sustained stretching within the anatomical limits and at different directions[12]. Based on the different literature we also used Kinesio tapping in the study[13]. Applications of Kinesio tapes were to facilitate contraction and increase muscle strength and to maintain the joint space. After the above treatment protocol conservative treatments like stretching, strengthening and biofeedback for gait training were done.

II. Case Report

A 30-year-old male with secondary injury and malalignment of the knee joint structure attended our clinic with primary complain of pain and buckling of the knee. The patient also gave the history of burning sensation in lateral expect of the knee till the mid-upper superior part of the lower leg. On assessment, patient was having limping gait and decreased strength in the affected extremity. The patient had no external injury or exposed area. On special test, patient was positive for Lachman Test, Positive Lateral Pivot Shift and Positive Anterior Drawer test. Patients explained numbness in lateral expect of the knee till the mid-upper superior part of the lower leg. The X-Ray also revealed slight malposition of the primary ACLR screw implant laterally. The slight malposition of the primary ACLR screw implant laterally was causing compression to the common peronial nerve at the sural nerve branch originating at the lateral end of lateral condyle and meniscus over lateral aspect of tibia head leading to numbness, sometime burning sensation and paraesthesia at in lateral expect of the knee till the mid-upper superior part of the lower leg. The patient also complained of the gradual increase in the weakness in the affected leg during walking (mild circumduction gait during walking were noticed).

After informed consent was explained to the patient in his vernacular language and signed by the patient, he was taken into present study. Pre-data were recorded before any enhancement of the treatment. The patient was instructed to thoroughly follow the exercise protocol advised by the therapist and not to undergo any other treatment or medication till study sessions get completed. In the present study, we used outcome measure as visual Analog Scale, pre-treatment video on Gait analysis, areas of diminished sensation and the borders of distribution, lower limb strength.

III. Discussion

The present case is rare and difficult to treat the case as due to the secondary injury to the knee joint there is increase in kinesiophobia and pain along with nerve interruption. A young patient is always scared of any treatment and little cooperative to the active physical therapy. In such cases, patient should be given the confidence to practice independent activity sessions. As we discussed, we found that more the pain more uncomfortable the patient will be at the therapy sessions. Hence the goals of the study were to decrease the pain first along with numbness and then to increase the strength and mobility of the lower limbs followed by gait training.

Fig. 1: MT2 Blade Release

Fig. 2: Mobilization with Belt followed by Kinesio Tapping

In the present study, we used a combination of the different physical therapy techniques to encounter the pain, numbness and joint mobility at the same site as they were related to each other. We used soft tissue release technique with the help of MT2 blade. MT2 blade uses the principal of myofascial release wherein a stretch is applied on the tight fascia that is maintained for 90-120 seconds prove to lengthen the tight fascia. Other studies on MT2 blade have shown beneficial effects at the cellular, level reduction in scar and increase vascular response[14,15]. MT2 blade therapy also releases fascia leading to pain relief. These effects of MT2 were beneficial in our case as to release the

surrounding structures of the knee joint before performing joint mobilization. This therapy gave pain relief and loosened hold on the knee joint and other surrounding structures around it. After MT2 Cryo-therapy was used to reduce if-any soreness caused due to instrument assisted soft tissue muscle relies. We used manual mobilization[16,17] and belt mobilization in combination with knee glides to decrease the compression of the lateral-end of lateral-condyle and meniscus over lateral-aspect of tibia head that was leading to compression of the sural nerve. Immediately after the soft-tissue release patient was asked to seat at the bed end and distraction in downwardly med-line position was applied. This created the space between the lateral end of lateral condyle and meniscus over lateral aspect of tibia head reducing the compression force. A posterior-medial glide in the midplane of the knee join pushed the lower meniscus position with anterio-posterier glide to tibio-femoral joint in such a position that it released the pressure from the common peronial nerve at the origin of sural nerve. This relived the nerve compression with the reduction in pain and burning sensation immediately. In the same position, we applied Kinesio tape to the knee joint to hold the position in place and for other beneficial effects on ACL reconstruction rehabilitation which are widely known[18,19,20].

The above combination of three therapies gave immediate effect on pain reduction and reduction in burning sensation and numbness. The patient was asked to perform some of the active exercises after the manual session for the strengthening of the lower limb. Manual mobilization techniques were continued for 15 sessions alternatively. Exercises were performed on daily bases under the observation of the therapist. Gait training was also started with visual feedback from the 8th day of the session.

IV. Results

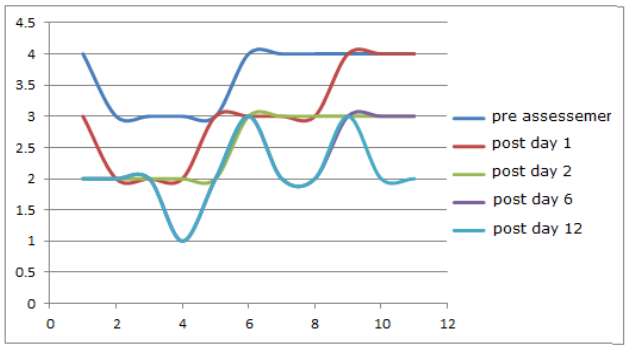

Fig. 3: Tampa Scale-11 (TSK-11) from Pre to Post Day Assessment

Tampa Scale-11 (TSK-11) showed significant changes from pre-assessment to day 1, 2, 6 and 12 depicted in fig 3. The patient was comfortable to walk with the slight pain on day 1 post-treatment as pain reduced form VAS 8 to VAS 5. On the next session, the patient was feeling comfortable and pain-free to do free and light weighted exercises. As the session was regular on daily bases at the 6th session patient was able to walk with a great improvement in his gait pattern. At the 12th session, patient showed significant improvement in walking with no pain and fear of the reoccurrence of reinjures. Burning sensation and paraesthesia at in lateral expect of the knee till the mid-upper superior part of the lower leg also showed a great reduction on the first-day post session. The joint space was maintained by mobilization in an uncompressed position of the sural nerve and prolonged support by Kinesio taping in same position. Relief in nerve entrapment further reduced nerve inflammation. The patient reported less frequent episodes of burning and paraesthesia in from day 2 to day 6 and nil to 1 episode only if done heavy stepping movements. Active exercises with theraband also showed significant improvement in increasing the lower limb strength.

V. Conclusion

A case presented with anatomical, physical as well as psychological conditioning is very-difficult to treat in any type of rehabilitation protocol. If the patient is kinesiophobic or having any other psychological fear it is very difficult to treat, hence careful assessment and gaining of the patient confidence in physical activity or exercise and towards the therapist is of outmost important. In the present case, we decided to relieve the stiffness and pain of the superficial area and then to do mobilization to relive inner compression and stiffness of the joint. This gives confidence to the patient to move the joint and that the therapy will not cause further injury to him. Kinesio tapping was also impotent to support the joint during exercises in correct and uninterrupted pain free position of sural nerve and other structures of the knee joint. Theraband exercises increased the strength in lower limb and biofeedback during gait training was also beneficial.

Conflicts of Interest: All authors declare no conflicts of interest.

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Good Prognosis of ALCAPA (Anomalous Origin of the Left Coronary Artery from the Pulmonary Artery Syndrome) with early Diagnosis and Surgical Treatment

By Samah Alasrawi
AlJalila Children Hospital

Abstract- *Introduction:* ALCAPA Anomalous origin of the left main coronary artery (LCA) from the pulmonary artery (PA) is a rare malformation that presents with myocardial ischemia or infarction and/or cardiac failure in infants (1). Surgical correction to re-establish a two-coronary artery perfusion system is the treatment of choice (2).

Objective: To present a case of ALCAPA with early diagnosis and treatment, and a very good prognosis.

Case Relate: 6 months old girl admitted with symptoms of heart failure, Echo, ECG and Cath showed signs of ALCAPA with sever dilated cardiomyopathy. The baby sent for surgical repair, and direct implantation of the LCA into the ascending aorta was done successfully. The baby followed in our cardiology clinic monthly. After 6 month of surgical repair, the baby was good without any complain, all symptoms resolved, the Echo showed acceptable contractility and function, the dilated cardiomyopathy improved dramatically.

Conclusion: In infants with DCM due to coronary artery anomalies, early diagnosis and surgical treatment with optimal timing provide an excellent prognosis.

Keywords: *ALCAPA, dilated cardiomyopathy, re-implantation of the coronary artery.*

GJMR-I Classification: *FOR Code: NLMC Code: WF 668*

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I. Introduction

ALCAPA Anomalous origin of the left main coronary artery (LCA) from the pulmonary artery (PA) is a rare malformation also known as Bland-White-Garland syndrome that presents with myocardial ischemia or infarction and/or cardiac failure in infants(1). It is associated with a mortality rate of 90% within the first year of life. Surgical correction to re-establish a two-coronary artery perfusion system is the treatment of choice. So we will present a case of ALCAPA which corrected successfully by surgery (2).

II. Case Report

6 months old girl admitted to the hospital with cough, breathing difficulty and sweating especially during crying or feeding from about 3 months, these symptoms were mild in the beginning but then became worse gradually, and associated with poor gaining weight.

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She was full term baby, normal delivery without any complications, birth weight: 3.8kg.

On physical examination: tachypnea RR = 45/min, Failure to thrive (WT=4.9kg <3%, HT=55cm <3%), Soft systolic murmur III/VI at the apex, chest: Harsh crackles bilateral Liver palpable about 4 cm below costal margin, other systemic examination was normal Labs: WBC: 11000 (N 35%, L 62%), Hgb 11.2 g/dl, CRP negative Electrolytes, liver function, renal function and Vit. D were normal.

Capillary Blood gases: PH = 7.51, PCO2 = 32, PO2 = 86, Hco3 = 26, So2 = 97% Chest XR: Cardiomegaly, increased pulmonary vascularity bilateral (Figure 1).

Fig. 1: Chest XR: Cardiomegaly, Increased Pulmonary Vascularity Bilateral

ECG: Signs of Anterolateral Myocardial Infarction (ST Depression in V5, V6) (Figure 2, 3).

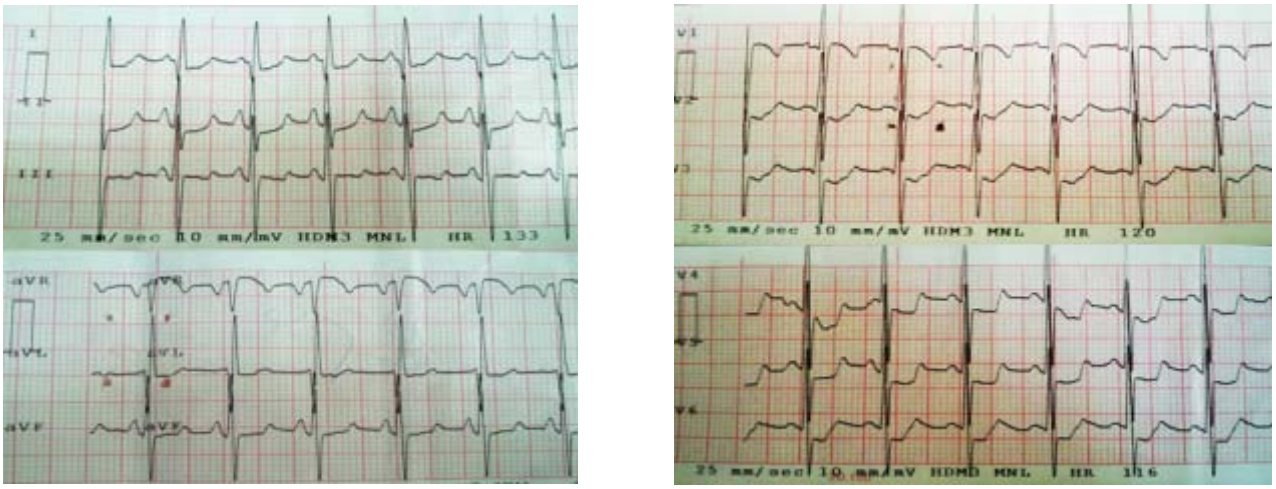

Fig. 2, 3: ECG: ST Depression in V5, V6.

ECHO cardiogram: poor function, sever dilated left heart, LVEDd = 6cm, EF = 14%, Fs = 7%, moderate to severe mitral regurgitation , left coronary artery cannot be seen from the Aorta , but seen as a diastolic flow in the main pulmonary artery Conclusion: sever dilated cardiomyopathy, suspected ALCAPA (Figure 4, 5).

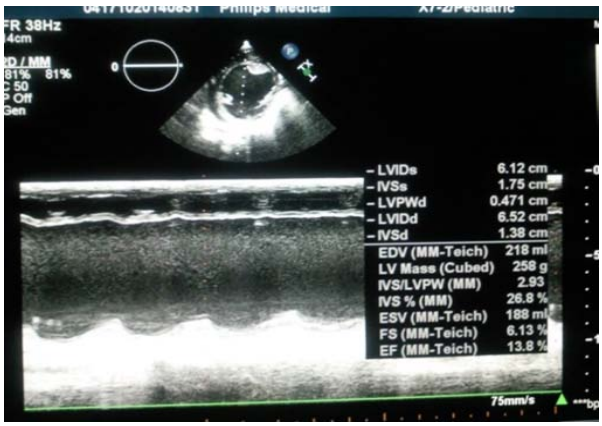

Fig. 4: Echo: M Mode in the LV Showed the Sever Dilatation and Poor Function

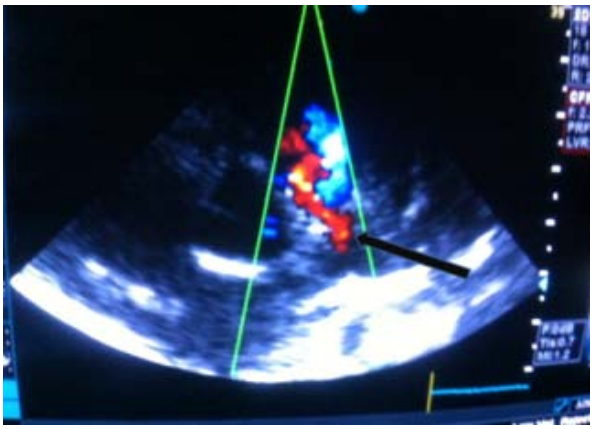

Fig. 5: Echo: Short Axis View Showed the Left Coronary Artery Origin from the Pulmonary Artery

So we started heart failure medications and sent her to the cathlab to complete the diagnosis.

Cath showed only RCA came from Aorta (AO) (Figure 6), LCA from Pulmonary artery.

Fig. 6: Cath Showed the Aorta, only the RCA (Right Coronary Artery) Came from it

The baby sent for surgical repair, and direct implantation of the LCA into the ascending aorta was done successfully.

The Echo after surgery showed LCA came from Aorta as in the normal heart (Figure 7).

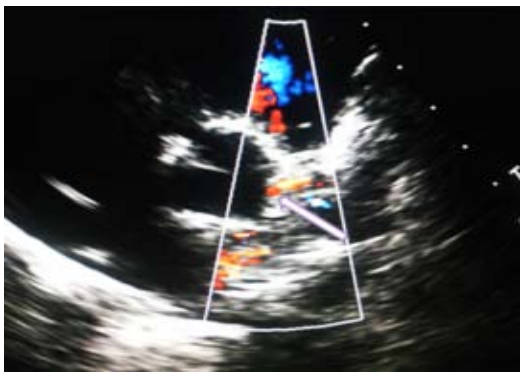

Fig. 7: Echo Post-Surgery: Left Coronary Artery Origin from Aorta

We continued the heart failure medications after surgery for 3 months, the baby followed in our cardiology clinic monthly.

After 6 month of surgical repair, the baby was good without any complain, all symptoms resolved, WT = 8.9 kg.

The Echo showed acceptable contractility and function, the dilated cardiomyopathy improved, EF became about normal EF = 52% (Figure 8).

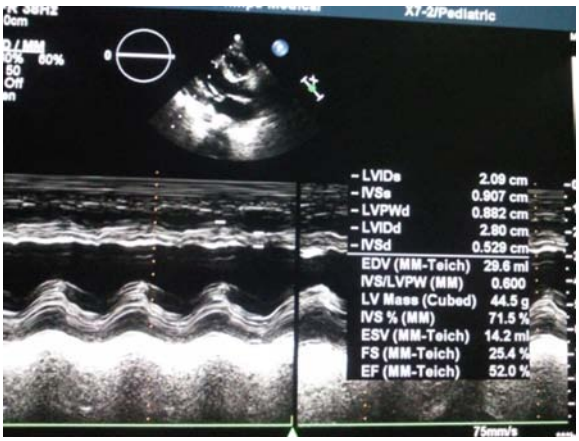

Fig. 8: Echo: 6 Months Post-Surgery, Good Contractility

III. Discussion

ALCAPA is a rare but serious congenital anomaly. Presently, the prognosis for patients with ALCAPA is dramatically improved as a result of both early diagnosis and treatment, The presenting features are paroxysms of irritability, which correlate with signs of heart failure so dilated cardiomyopathy is an important differential diagnosis and may also arise as a result of ALCAPA (3) as in our case which presented with dilated cardiomyopathy symptoms (4).

During infancy, ALCAPA syndrome can be fatal and patients present with myocardial infarction, left ventricular dysfunction, mitral regurgitation, or silent myocardial ischemia, which can lead to sudden cardiac death (4). While adult patients can be completely asymptomatic, they may present with angina, dyspnea, syncope, myocardial infarction, arrhythmia or sudden cardiac death (5). The electrocardiogram of a baby with ALCAPA usually shows typical signs of an anterolateral myocardial infarction, manifested by abnormal Q waves in leads I, AVL, V5, and V6, as well as by transient ST changes in these leads (we saw these changes in our case). The ECG may be also entirely within normal limits (6).

In patients with ALCAPA syndrome, even if the patient is asymptomatic, or symptomatic, surgical treatment is suggested. In our case, the patient was operated as soon as the diagnosis was reached. The objective of surgical treatment is to restore a normal coronary circulation and improve myocardial perfusion. A few surgical procedures are suggested based on the localization of the abnormal coronary artery ostium. In our case the LCA was directly re-implanted to the Ao. After surgery regular follow up is mandatory especially during the recovery period because of arrhythmia risk and sudden death. Early treatment may prevent irreversible myocardial damage with its subsequent complications (7), and we saw that in our case which dramatically improved after surgical repair.

IV. Conclusion

In infants with DCM, coronary artery anomalies should be considered a priority in establishing a diagnosis. Coronary re-implantation is the technique of choice for surgical correction. Early diagnosis and surgical treatment with optimal timing provide an excellent prognosis.

Abbreviations

ALCAPA : Anomalous origin of the Left Coronary Artery from the Aulmonary Artery.
Ao : Aorta. DCM : Dilated Cardiomyopathy.
PA : Pulmonary Artery. ECG : Electrocardiography.
EF : Ejection Fraction. LCA : Left Coronary Artery.
RCA : Right Coronary Artery.

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Chemical Management of Anal Fissure without Headache and Hypotension in Almak Nimir University Hospital

By Elssayed Osman Elssayed, Omer Alsharif, Mohanned Omer Abass & Abdelrahman Babekir Mhammed

Shendi University

Abstract- Anal fissure is a linear or oval-shaped tear in the anal canal starting just below the dentate line extending to the anal verge.

Objective: To evaluate the efficacy and complications of GTN with Vaseline base in the period between January 2014 to June 2018 in Almak Nimir University Hospital Shendi University (Sudan).

Methodology: This study was a prospective, hospital-based, small-scale study conducted in the period between April 2014 to April 2018 in Almak Nimir University Hospital Shendi University (Sudan). 155 patients with acute & chronic anal fissure treated with GTN with Vaseline base (22 patients excluded due to incomplete follow up).

Result: One hundred and fifty-five patients were enrolled: twenty-two patients excluded due incomplete follow up. The maximum number of cases of anal fissure belonged to the 21 to 30 age group. Success rate up to 94 % with and negligible site effect (1.5%).

Keywords: glyceryl trinitrate (gtn), chronic anal fissure (caf), internal anal sphincter (ias), resting anal pressure (rap).

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Conclusion: GTN 2% in Vaseline base was effective in the treatment of anal fissure with an efficacy up to 94% and negligible site effect (1.5%).

Keywords: glyceryl trinitrate (GTN), chronic anal fissure (CAF), internal anal sphincter (IAS), resting anal pressure (RAP).

I. Introduction

An Anal fissure is a linear or oval-shaped tear in the anal canal starting just below the dentate line extending to the anal verge. It was first described in 1934 by Lockhart-Mummery. [1, 2]

Chronic fissures may associate with a sentinel pile or anal papilla. The majority of occur in the posterior midline (90%), although anterior midline fissures seen in 10-20% of affected women and 1-10% of affected men (3).

II. Etiology

The pathogenesis of chronic anal fissure remains poorly understood. The sphincter spasm seems to cause relative local ischemia that precludes the healing (4) (5).

Many reports have documented that anal hypertonia means elevated maximal resting anal pressures (RAP) higher than 90 mm Hg [6 - 9] and is related to the internal anal sphincter because resting pressures returned to normal values after internal sphincterotomy [10, 11]. Anal hypertonia of IAS produces ischemia of the posterior commissure of the anus [9, 12, 13]. It was postulated that increased anal pressure precedes the development of anal fissure, and there is evidence that psychological stress produces a sustained tonic rise in anal canal pressure, translating into an increased tone in the IAS [12 - 15].

A morphological description offers a more precise definition. The CAF presents thickened edges with usually visible, internal anal sphincter fibers at the fissure base. It may also be associated with skin tag (the sentinel pile) at the lower end of the fissure and/or a papilla at the upper end of a fissure (hypertrophied anal papilla) [16, 17, 18].

The presenting complaints documented in the study by Khubchandani and Reed were the pain (23.5%), bleeding (76.2%), itching (34.9%) and an anal lump (24.3%) and burning sensation in the anal region (33%) (19).

a) Medical Therapy

Initial therapy for an anal fissure is medical, and more than 80% of acute anal fissures resolve without further. The goals of treatment are to relieve constipation and to break the cycle of hard bowel movement and associated pain. Softer bowel movements are less painful for the patient to pass.

First-line medical therapy consists of therapy with stool-bulking agents, such as fiber supplementation and stool softeners. Laxatives used as needed to maintain regular bowel movements. Mineral oil may be added to facilitate passage of stool without as much stretching or abrasion of the anal mucosa, but it was not recommended for indefinite use. Sitz baths after bowel movements and as needed provide significant symptomatic relief because they relieve some of the painful internal sphincter muscle spasms.

Recurrence rates are in the range of 30-70% if the high-fiber diet abandoned after the fissure healed. This range can be reduced to 15-20% if patients remain on a high-fiber diet.

Second-line medical therapy consists of an intra-anal application of 0.4% nitroglycerin (NTG: also

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called glycerol tri-nitrate) ointment directly to the internal sphincter. [20].

b) Pharmacological Sphincter Relaxants

Interest in the pharmacologic manipulation of the IAS was spurred by the recognition that sphincter hypertonia associated with fissure persistence, and that surgical approaches to decreased tone may lead to permanent dysfunction. The IAS consists of smooth muscle whose tone is caused partially by intrinsic myogenic properties and partly to extrinsic neural influences [21, 22, 23] Nitric oxide is the principal noradrenergic, noncholinergic neurotransmitter in the IAS [24, 25] and its release results in IAS relaxation. IAS contraction is mediated by increased cytosolic calcium levels [21, 26] Calcium-channel blockers conversely reduce IAS tone. α1-Adrenergic stimulation leads to IAS contraction, whereas β-adrenergic and muscarinic cholinergic agonists lead to IAS relaxation (21).

Topical Glyceryl trinitrate cream a nitric oxide donor compound has been shown to cause relaxation of anal sphincter (27).

Conventional myorelaxant creams such as topical nitroglycerin, nifedipine, and calcium channel blockers have all proven to be efficacious in treating anal fissures, albeit less so than lateral internal sphincterotomy [28, 29]. Unfortunately, different studies have reported associated moderate to severe side effects, ultimately resulting in non compliance and treatment failure [30, 31]. Nitroglycerin causes headaches and hypotension in over 70% of patients [32, 33], and diltiazem causes perianal itching [34].

The drawbacks to topical GTN are intolerance due to side effects and overall poor patient compliance. Systemic absorption of the compound can result in vasodilation and severe headaches. Headaches are a problematic side effect of topical GTN, and up to 20% of patients had to discontinue therapy. (35).

III. Patients and Methods

This study was a prospective, hospital-based, small-scale study conducted in the period between January 2014 to June 2018 in Almak Nimir University Hospital Shendi University (Sudan). 155 patients with acute & chronic anal fissure treated with GTN with Vaseline base (22 patients excluded due to incomplete follow up), the anal fissure was defined as ulceration in the posterior or anterior an oderm or post de factory pain. Patients with other conditions (perianal fistulas or abscesses) excluded.

IV. Methods

A total of 133 patients, 43 patients (32.3%) with chronic anal fissure and 90 patients (67.7) with acute anal fissure aged between 15 and 70 years were included in this study / and were subjected to non-operative management with 2% GTN in Vaseline base twice daily for six weeks.

Patients re-evaluated at 2 and, six weeks, during follow-up, history and perianal examination were performed, and patients' records reviewed, parameters, relief of symptoms, pain relief, bleeding per rectum and healing of fissure were evaluated. Complications of treatment, headache, dizziness and significant drop in blood pressure recorded.

The response to treatment registered as complete (symptomatic remission and complete fissure cicatrization), partial (symptomatic improvement but the persistence of the fissure), refractory (without symptomatic improvement or fissure cicatrization) and relapse (recurrence of symptoms and appearance after complete response).

The primary endpoint of the study was complete healing and symptomatic improvement after GTN treatment. Statistical analysis was performed using SPSS.

V. Results

Most of the patients belonged to the age group 21-30 (39.1%), and the age of 71-80 is less affected, with a slight male preponderance (51.1% 49.9%).

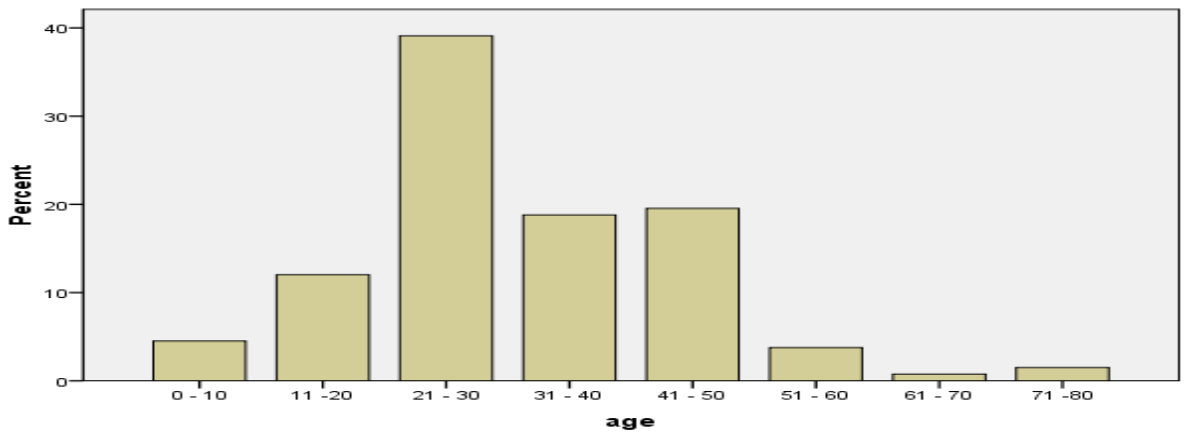

Fig. 1: Distribution of Patients According to Age.

Table 1: Distribution of Patients According to Sex.

Gender	No. of Patients %
Male	68 (51.1%)
Female	65 (48.9%)

100 patients (75.2%) had pain during defecation as their presenting symptom, bleeding per rectum in 8 patients (6 %), while both pain and bleeding in 25 patients (18.8%) and of whom 72.2% of patients had a history of constipation

Table 2: Distribution of Symptoms

Symptoms No of Patients N=134	Percentage (%)
Pain During Defecation	100 75.2 %
Pain & Bleeding	2518.8 %
Bleeding	8 6 %
Constipation	9672.2 %

The clinical signs in the study were a posterior anal fissure in 112 patients (84.2%), an anterior anal fissure in 9 patients (6.8%), while six patients (4.5%) in both and 12 patients (9%) had a tender digital rectal examination.

Table 3: Distribution of Clinical Signs

Clinical Signs	No.of Patients
Posterior Anal Fissure	107 Patients (80.5%)
Anterior Anal Fissure	8 Patients (6%)
Both	6 Patients (4.5)
Tender Digital Rectal Examination	12 Patients (9%)

By two weeks 128 patients (96.2%) achieved symptom relief, by the six week the number decrease to 125 patients who respond to the management (94%)

Table 4: Patients who respond to GTN by Two Weeks & 6 Weeks

Relief of Symptoms		
2 Weeks	6 Weeks	
Respond	128 (96.2%)	125 (94%)
Not Respond	5 (3.8%)	8 (6%)

131 patients (98.5%) not express a headache or symptom of hypotension after treatment with GTN.

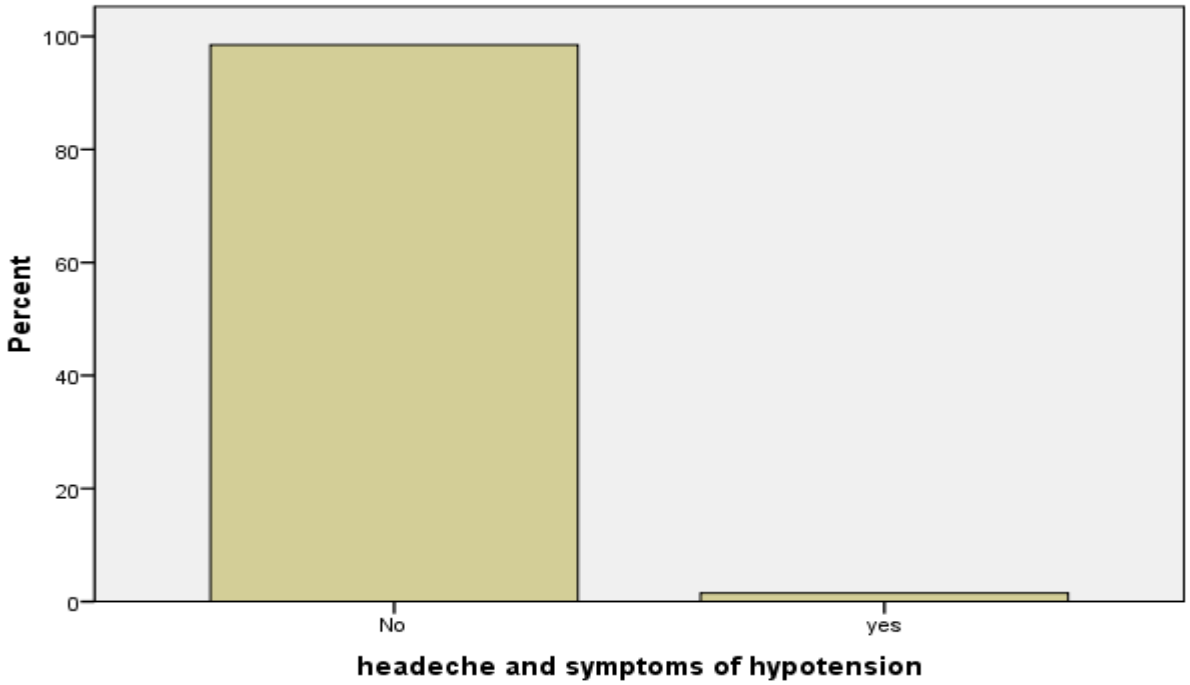

Fig. 2: Patients who Express a Headache

VI. Discussion

An anal Fissure is a disease of young adults as most of the published studies agreed on, Hananel and Gordon, they state that Fissure most commonly seen in middle-aged and younger patients (1) Jensen SL studied 90 patients with acute anal fissure, and reported a mean age of 46(36) Raj V. K. and Kadam M. M. has observed that 36.67% of acute fissure and 43.33% of chronic fissure cases occurs in the age group between 21-30 years old (39). We had similar results in the present study, with the maximum number of cases of anal fissure belonged to 21 to 30 age group. There were six cases of an acute anal fissure in less than 10-year age group. The lax anal sphincter is the reason for the rarity of the disease among the patients above the age of 60 years (figure 1).

Concerning gender there was no variation in distribution, Jensen SL reported an equal incidence of male and female patients (36) Giridhar C. M. etal. have

observed that 56.6% male patients and 43.3% female patients had an anal fissure (37). According to Kari S. S. et al, while studying 100 patients with an anal fissure, 56 % of patients were males (38) In the present study there is a slight male predominance with 51.1% of patients being males. (table 1).

Raj V. K. and Kadam M., found that Intense pain during and after defecation with or without bleeding per rectum are the symptoms with which a patient of an acute anal fissure usually presents to (93.33%) (39). Hananel N. and Gordon in a review of 876 patients, pain and bleeding were the main complain (90.8% & 71.4%) respectively (1).

In the present study, the most common presentation of an anal fissure was pain during defecation 100 patients (75.2%), followed by both pain & bleeding per rectum 25 (18.8%) cases. Constipation was present in 96(72.2%) cases (Table 2).

Hananel N. and Gordon in their study found, 75 % of the anal fissure was anterior, while posterior anal fissure in 25% (1). In our study posterior location, the figure was higher 107 (80.5%) cases, while an teriorly was found in 8 (6%) cases, both posterior and anterior was in 6 patients (4.5%).Painful on examination without fissure in 12 (9%) cases (Table 3).

The majority of acute anal fissures managed medically. In fact, almost half will heal with conservative therapy alone using warm baths and increased fiber intake. (5, 40) [20]. In his study, Shubetal, found that 44% of fissure healed conservatively within four weeks. (41).

All the patients enrolled in the present study 133 patients,128 patients (96.2%) achieved symptom relief within two weeks by using GTN (in Vaseline base) stool softeners, sitz bath, and lignocaine ointment, while five patients (3.8%)not responded. Patients in whom there was no relief of symptoms after two weeks of conservative management, were subjected to surgical management. By the six weeks the number decrease to 125 patients who respond to the treatment (94%) achieved symptom relief (no pain or bleeding, ulcer healing) (table 4).

Chemical sphincterotomy with nitrates may generate headache in 20%-30% (35)(42) of cases or even a higher rate (43).Other study, nitroglycerin causes both headache and hypotension in over 70% of patients [32,33]. Systemic absorption of the compound was the cause of the problem due to vasodilation and up to 20% of patients had to discontinue therapy (35), which was absent in this study no patient stops the treatment due to side effect, either a headache or symptoms of hypotension and increase the success rate up to 94 % (table 5).

Nelson R & Perry WB and his group in two different studies they conclude that the dose of GTN (0.2% or 0.4%) was not found to influence the efficacy but did increase the incidence of side effects, headache, which occurred in about a quarter of patients [42,44]. In our study a headache is not significant, was only noticed in two patients (1.5%).

A systematic review of the literature was undertaken two databases (Pub Med, MEDLINE) were searched, this is the first study in the literature used GTN 2 % in Vaseline base, they use GTN ointment with different concentration (0.2% & 0.4%) [42,44] in spite of that we have two patients (1.5%) who experience headache, Vaseline base was found to be the major contributing factor in preventing absorption of GTN systemically.1

VII. Conclusion

GTN 2% in Vaseline base was very good in the treatment of anal fissure with an efficacy up to 94% and negligible site effect (1.5%). So we can conclude that a headache is not a headache in patients using GTN.

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Multi-Recurrent Primary Leiomyosarcoma of the Seminal Vesicle: A Surgical Challenge

By Amine Slaoui, Fouad Aoun, Greg Assenmacher, Walid Hajj Obeid, Souhail Regragui, Ayhan Bakar, Nicolas Sirtaine, Francois Xavier Otte, Sideris Spyridon, Thierry Gil, Eric Hawaux, Ksenjia Limani, Thierry Roumeguère, Alexandre Peltier & Amine Slaoui

Jules Bordet Institute

Abstract- *Background:* Rare, primitive tumors of the seminal vesicle are often a poor prognosis. Moreover, the physiopathology remains misunderstood. Tumors are frequently classified as carcinomas and to a lesser extent as sarcomas. We present a challenging case of multi-recurrent primary leiomyosarcoma of the seminal vesicle surgically treated.

Case Presentation: A 58-year-old male patient consulted for a second opinion regarding an incidental discovery of a para-prostatic mass on abdomen-pelvis computed tomography. Further imaging by PET-CT and MRI confirmed the presence of a hyperactive nodule. Trans-rectal biopsies were performed initially showing evidence of benign leiomyoma. The patient underwent surgical removal of the right seminal vesicle by robot-assisted laparoscopy. Pathological examination revealed a grade I leiomyosarcoma of the seminal vesicle with negative margins. The patient did not receive adjuvant therapy. He has benefited close monitoring with both MRI and PET-CT. Thirty months after surgery, he presented evidence of recurrence on MRI imaging. He underwent excision of a right periureteral nodule and a right iliac lymph nodes dissection.

Keywords: *leiomyosarcoma, grade 1, seminal vesicle, recurrent.*

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Multi-Recurrent Primary Leiomyosarcoma of the Seminal Vesicle: A Surgical Challenge

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Abstract- Background: Rare, primitive tumors of the seminal vesicle are often a poor prognosis. Moreover, the physiopathology remains misunderstood. Tumors are frequently classified as carcinomas and to a lesser extent as sarcomas. We present a challenging case of multi-recurrent primary leiomyosarcoma of the seminal vesicle surgically treated.

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One year later, follow-up showed on MRI a mass infiltrating the right side of the prostate's base and the bladder neck with two new nodular formations on the internal iliac chain.

A robot-assisted laparoscopic radical prostatectomy with tumor mass excision and extended lymph node dissection was performed and histopathological analysis of the specimen determined recurrence of leiomyosarcoma, grade 1 according to the FNCLCC.

Conclusion: Primary leiomyosarcomas of the seminal vesicle are exceedingly rare, and data on optimal treatment are lacking. Most of the time, a personalized treatment is proposed to the patient according to his characteristics and that of the tumor. This is a rare case of relapsing primary grade I leiomyosarcoma of the seminal vesicle. In the literature, cystoprostatectomy appears to be the treatment of choice for those tumors. This is the only case published in the literature of a recurrent primary grade I leiomyosarcoma of the seminal vesicle with up to 72-month follow-up. Early diagnosis and treatment are essential to improve the prognosis of this disease. Multimodal treatment should be discussed in a multidisciplinary approach.

Keywords: leiomyosarcoma, grade 1, seminal vesicle, recurrent.

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I. Introduction

Seminal vesicle is frequently involved by a contiguous spread of locally advanced malignancies from adjacent organs. However, primary neoplasms of the seminal vesicle are rare with primary adenocarcinoma being the most common (1). Primary leiomyosarcomas of the seminal vesicle are exceedingly rare with only eight cases published in the literature (2).

In addition, the lack of long-term monitoring data explains the fact that we do not have information on the best treatment. Most of the time, a personalized treatment is proposed to the patient according to his characteristics and that of the tumor. Therefore the bloc resection is the cornerstone of management. Here, we report a challenging case of multi-recurrent primary leiomyosarcoma of the seminal vesicle with a follow-up of more than six years, and we review the literature. We discuss as well the potential causes of recurrence and available treatment options.

II. Case Presentation

Back in 2011, the patient, a 58-year-old male, was referred to our department for an incidental right para-prostatic mass on an abdomen-pelvis computed tomography performed for unspecific abdominal pain. The patient had a history of high blood pressure, burnout, and a stable thoracic aortic aneurysm. To note, the patient had no LUTS and no family history of prostate cancer. Physical exam was unremarkable

nevertheless a slight asymmetry was noticed on digital rectal examination, but no nodule was palpable. The prostate specific antigen level was two ng/ml. To further characterize this mass, a multiplanar MRI was performed. MRI confirmed the origin of the mass from right seminal vesicle with no extension toward adjacent organ. A fluorodeoxyglucose positron emission tomography confirmed the presence of a 2.8 cm mass originating from the right seminal vesicle with a SUVmax of 74 and a transrectal ultrasound-guided biopsy was performed on October 2011. The biopsy revealed the presence of a spindle cell tumor with uniform cigar-shaped and slightly ovoid centrally located nuclei with an abundant granular eosinophilic cytoplasm. The immunohistochemical analysis shows a positive reaction for desmin, caldesmon and smooth muscle actin (SMA). The most likely diagnosed was benign leiomyoma. The patient has had surgical removal of the right seminal vesicle by robot-assisted laparoscopy. Pathological examination showed a grade I leiomyosarcoma of the seminal vesicle with negative margins. These results were further confirmed by anatomopathological revision of the slides by a pathology expert at a referral center in Massachusetts General Hospital-Boston USA. The patient did not receive adjuvant therapy based on a multidisciplinary decision and was closely monitored with both a multiplanar MRI and a fluorodeoxyglucose positron emission tomography. Thirty months after surgery, he presented evidence of recurrence on both imaging. He underwent a re-excision of the right peri-ureteral nodule and benefited from a right iliac lymph node dissection. The pathological examination revealed a grade I leiomyosarcoma of the right peri-ureteral nodule and the harvested lymph nodes were free of tumor. One year later, follow-up showed another evidence of recurrence. MRI showed a 17 mm mass infiltrating the right side of the prostatic base and protruding inside the bladder neck as well as the appearance of two new nodular formations on the internal iliac chain measuring 11 and 14 mm, respectively (figure 1-3). No distant metastases were seen on fluorodeoxyglucose positron emission tomography. A urethra-cystoscopy did not report any bladder endoluminal lesion but the protrusion of a slightly more right domed prostatic lobe. The measured PSA level was 1.03 ng/ml. After the Oncologic Multidisciplinary Committee approval, a robotic-assisted laparoscopic radical prostatectomy with tumor mass excision was performed. Intra-operatively, peritoneal and para-vesical and iliac nodules were present. Histopathological analysis of the specimen determined recurrence or metastasis of granulocyte leiomyosarcoma, grade 1 according to the FNCLCC (The French Federation of Comprehensive Cancer Centers), known in the patient (Figure 5).

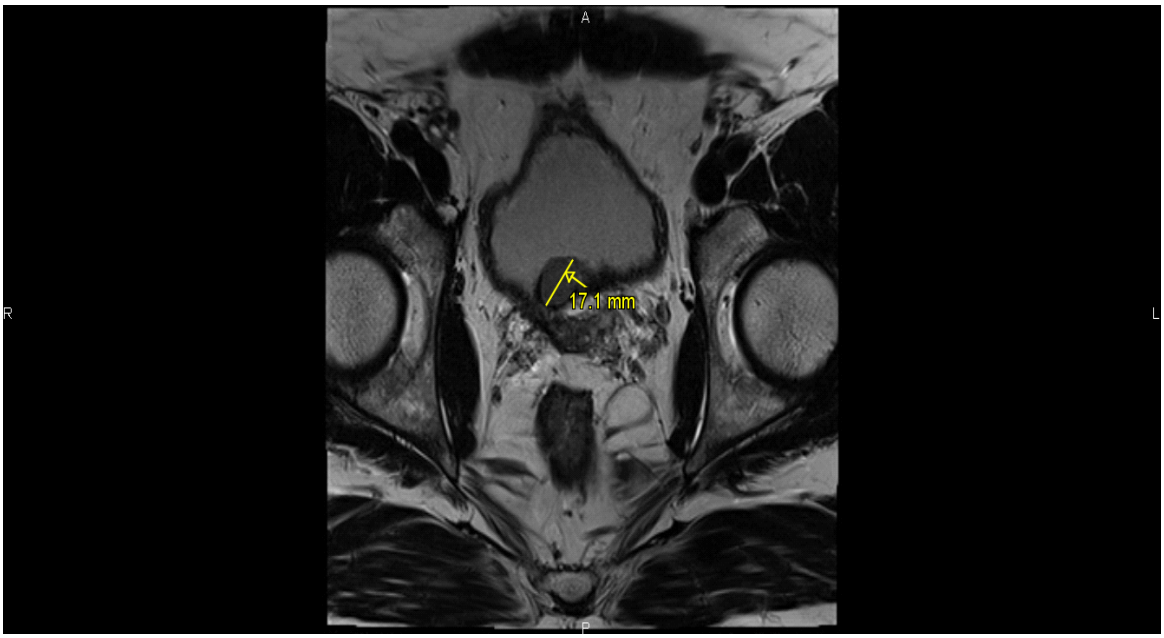

Fig. 1: The Resonance Confirms a Nodular Formation at the Level of the Bladder Floor just Opposite the Central Gland about 17 mm in Diameter (Cross Cut)

Fig. 2: The Resonance Confirms a Nodular Formation at the Level of the Bladder Floor just Opposite the Central Gland about 17 mm in Diameter (Sagittal Cut)

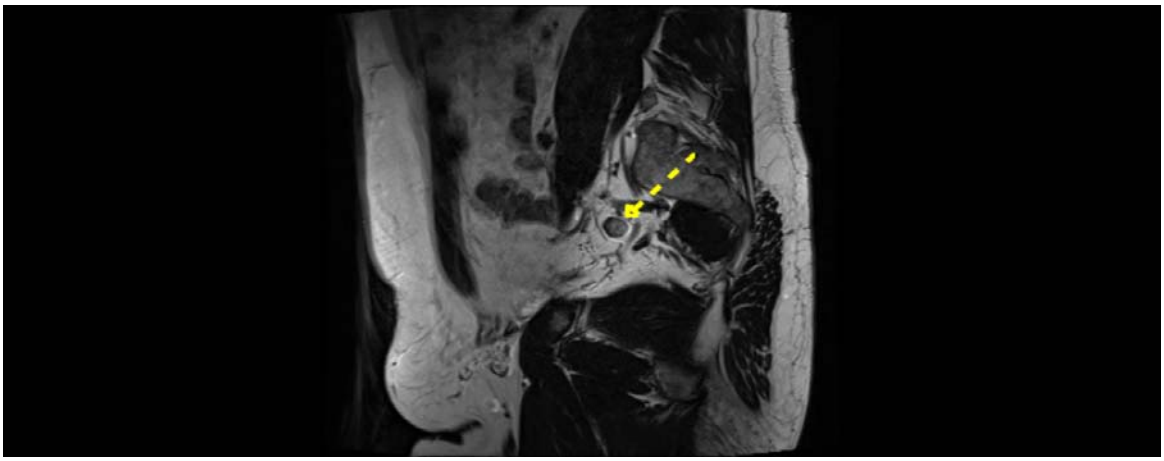

Fig. 3: The Resonance Confirms a New Nodular Formation on the Right Internal Iliac Chain (Sagittal Cut)

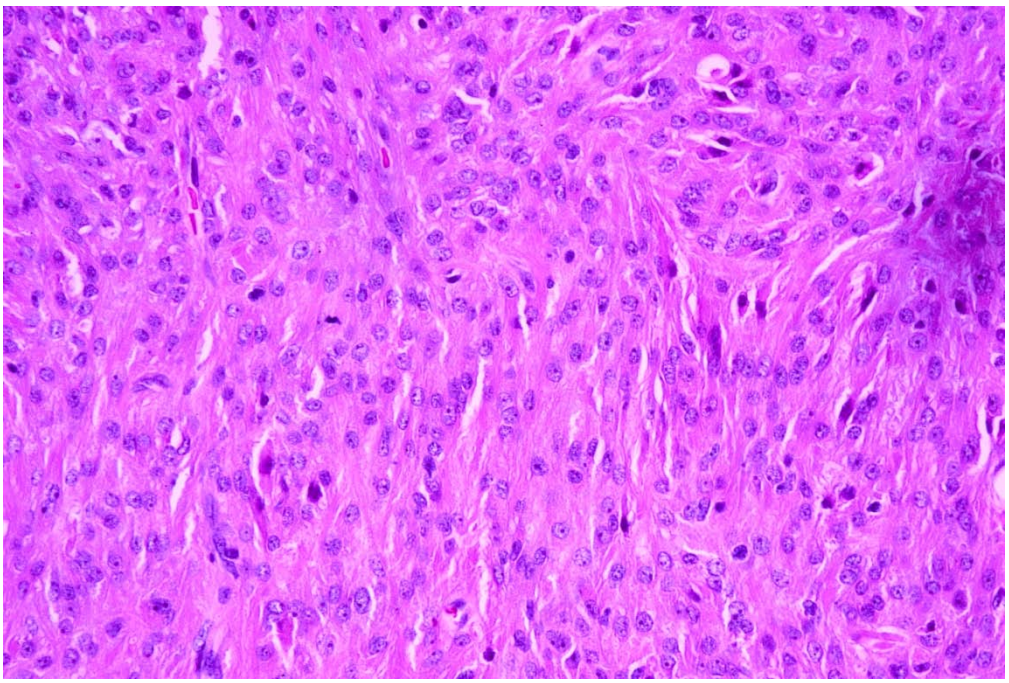

Fig. 4: Mixed Spindle and Epithelioid Tumoral Cells, with Abundant Eosinophilic Granular Cytoplasm, Moderate Atypia, and Low Mitotic Activity. (H & E X400)

III. Discussion

Primary tumor of the seminal vesicle is a rare entity and an exclusion diagnosis at the same time. According to Dalgaard and Giertsen (3), there must be no other demonstrable tumors present in the body because tumor invasion from adjacent organs or secondary localization is far more common that primary one. In our case, imaging, endoscopic work-up and transrectal ultrasound-guided biopsy of the prostate as well as the tumor showed no evidence of bladder and prostatic disease. Surgical resection of the lesion confirmed that a cleavage plan was present between the prostate and right the seminal vesicle where the tumor originates. Additionally, the PSA was mot high and the fluorodeoxyglucose positron emission tomography did not detect any other suspected localization in the body. Histopathological examination revealed grade 1 leiomyosarcoma originating from the seminal vesicle with a negative margin.

Primary malignant tumors of the seminal vesicle reported include carcinomas, sarcomas and an unusual group of tumors with mixed epithelial and stromal components (4). Although rare, carcinomas are more common than leiomyosarcomas (5).

A thorough review of the literature revealed eight cases of primary leiomyosarcoma of the seminal vesicle with a limited follow-up.

The table shows that primary leiomyosarcoma is more common in adults than in children, with the average age being 57 years. No specific risk factors have been identified.

Because tumor is asymptomatic, it is challenging to diagnose it. Most of the time, the discovery is fortuitous (by digital rectal examination, or radiologically) similarly to our case. Nevertheless, some patients report urinary and rectal symptoms often due to the size and extent of the tumor. No need to remember that no cases of hemospermia, hematuria or anejaculation have been reported.

Ultrasonography, CT, and MRI can all demonstrate the existence of a tumor mass although MRI being the most sensitive and specific in the pelvis. In this case, the image was strongly suggestive of a tumor originating from the right seminal vesicle. Tumor markers were negative. Our patient had a normal PSA.

The diagnosis is confirmed by histopathological examination of tissues collected by transrectal needle biopsy or by analysis of the surgical specimen. For our patient, a first diagnosis was made following the biopsies and was confirmed at a later stage by the analysis of the various operative pieces.

There are several staging of sarcomas. We used the FNCLCC classification because its performances are much better than the other classifications, regarding of reproducibility, performance and prognostic value (12, 13, 14). Grade 1 is considered to have a very low risk of recurrence and metastasis (12). The karyotype of our patient was normal so we could not integrate it into a familial leiomyosarcoma form, such as the hereditary leiomyomatosis and renal cell carcinoma (HLRCC) or Reed Syndrome in familial uterine leiomyosarcomas. The HLRCC syndrome is a rare autosomal-dominant condition caused by a mutation in the fumarate hydratase tumor suppressor gene.

The prognosis of seminal vesicle leiomyosarcoma is poor and unfavorable compared to other urological sarcomas from the bladder or para-testicular site (10). We could explain this by the delayed diagnosis due to the unusual form and paucisymptomatic character of this tumor, but also by the difficulty of complete surgical excision. Our case represents the one with interesting because it is the longest follow-up (72 months). We do not find any cases of recurrence for a grade 1 leiomyosarcoma in the literature. Nevertheless, patients with metastatic relapses have been reported suggesting that these sarcomas share prognostic features with other soft tissue sarcomas such as uterine leiomyosarcomas (15).

No standard or ideal treatment for seminal vesicle sarcoma has been established given the limited data in the literature. Nevertheless, through this case, we could conclude that Primary leiomyosarcomas is managed radically by surgery. Two surgical options were proposed: cystoprostatectomy with extended lymphadenectomy, or vesiculo-prostatectomy without cystectomy. There is insufficient data to clearly establish the superiority of one choice over the other. We opted for a vesiculo-prostatectomy because the patient is relatively young, the tumor had a grade 1, and the bladder was free from any lesion. Adjuvant radiotherapy may be used in the case of positive margins even though its role has not yet been clearly established (2,11).

Concerning adjuvant chemotherapy, its role in soft tissue sarcoma remains uncertain (16). The most widely used molecules are mesna, doxorubicin, ifosfamide, dacarbazine in combination (11), but some authors have used other anthracycline-based chemotherapy, gemcitabine and docetaxel, as seen with leiomyosarcomas from other sites (17).

IV. Conclusion

This case presents our experience with a multi-recurrent grade 1 primary leiomyosarcoma of the right seminal vesicle that until present revealed no signs of distant metastases, yet poses a surgical predicament. In this report we aim to support the critical significance of regular follow-ups of patients with grade 1 leiomyosarcoma, and aggressive local treatment in an attempt not to compromise long term oncologic outcome.

Table 1: Describing the Characteristics of the Nine Cases of Seminal Vesicle Leiomyosarcoma Reported in the Literature.

Author	Country	Age (Yrs)	Clinical Symptoms	Left / Right	Biopsy	Grade	Patho-logical Margins	Tum or Size	Adju-vent Treat-ment	Follow Up
Schned (6)	USA	69	None (RE)	Left	Yes	Inter-mediate	R0	3,5 Cm	No	14 Months: No Relapse, Alive
Wang (7)	USA	NA	None (RE)	NA	NA	High	R1	NA	No	24 Months: No Relapse, Alive
Wang (7)	USA	NA	None (RE)	NA	NA	High	R1	NA	No	29 Months: Metastasis (Lung), Alive with Disease (Doxorubicin)
Amirkhan (8)	USA	68	Rectal and Pain	Right	Yes	High	R0	10 Cm	No	13 Months: No Relapse, Alive
Muentene (9)	Switzerland	64	Urinary	Left	No	High	R0	8 Cm	No	24 Months: Metastasis (Kidney), Alive with Disease (CT)
Upreti (10)	India	46	Urinary and Pain	Right	Yes	NA	NA	NA	No	6 Months: No Relapse, Alive
Agrawal (11)	India	37	Urinary And Rectal	Right	Yes	Inter-mediate	NA	15 Cm	CT (MAID) + RT	20 Months: No Relapse, Alive
Cauvin (2)	France	59	Rectal	Right	Yes	Inter-mediate	R1	8 Cm	RT	29 Months: Metastases (Subcutaneous, Lung, Liver: MAI); 51 Months: Alive with Disease (Gemcitabine-Docetaxel)
Our Case	Belgium	58	Unspecific Abdominal Pain (CT)	Right	Yes	Low	R0	2,8 Cm	No	75 Mounts: Alive, Relapse + Metastases: Peritoneal Nodules

RE: rectal examination, NA: not available, CT: chemotherapy, MAID: mesna + doxorubicin + ifosfamide + dacarbazine, RT: radiation therapy.

Abbreviations:

PET-CT: Positron emission tomography computed tomography.
MRI: Magnetic Resonance Imaging.
FNCLCC: The French Federation of Comprehensive Cancer Centers.
LUTS: Lower urinary tract symptoms.
SUVmax: Standardized Uptake Value.
SMA: Smooth muscle acting.
PSA: Prostate-specific antigen.

Consent for Publication:

We obtained the written informed consent of the patient for the publication of this case report and accompanying images.

Availability of Data and Material:

All data and material are available.

Declaration of Interest:

The authors declare that they have no conflicts of interest in relation to this article.

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A.S: Wrote the article.
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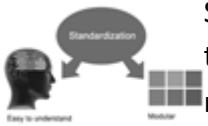

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The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- 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.
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- • 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 :

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- 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.

"

Preferred Author Guidelines

We accept the manuscript submissions in any standard (generic) format.

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

Alternatively, you can download our basic template from https://globaljournals.org/Template

Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at submit@globaljournals.org or get in touch with chiefeditor@globaljournals.org if they wish to send the abstract before submission.

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Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

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2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
4. Manuscript to be submitted must include keywords, an abstract, a paper title, co-author(s') names and details (email address, name, phone number, and institution), figures and illustrations in vector format including appropriate captions, tables, including titles and footnotes, a conclusion, results, acknowledgments and references.
5. Authors should submit paper in a ZIP archive if any supplementary files are required along with the paper.
6. Proper permissions must be acquired for the use of any copyrighted material.
7. Manuscript submitted *must not have been submitted or published elsewhere* and all authors must be aware of the submission.

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- Findings
- Writings
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- Graphs
- Illustrations
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- Printed material
- Graphic representations
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- Electronic material
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The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

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Preparing your Manuscript

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.

Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11'", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
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.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
j) There should be brief acknowledgments.
k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

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

Format Structure

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

All manuscripts submitted to Global Journals should include:

Title

The title page must carry an informative 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) where the work was carried out.

Author details

The full postal address of any related author(s) must be specified.

Abstract

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Keywords

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

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

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning 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 a research paper?” Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

Tables, Figures, and Figure Legends

Tables: Tables should be 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. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.

Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

Preparation of Eletronic Figures for Publication

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). 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: Authors are advised 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. Also, you can email your editor to remove the color fee after acceptance of the paper.

Tips for writing a good quality Medical Research Paper

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. 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.

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

4. Use of computer is recommended: As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.

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

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

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

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.

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