IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 23, Issue 11 Ser. 1 (November. 2024), PP 19-22
www.iosrjournals.org

Management Of Inguinal Hernias In Adults In Mulongo: A Local Anesthesia Approach

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Summary
Introduction*: Inguinal hernia, passage through the transversalis fascia of a peritoneal diverticulum, is a common condition often requiring surgical intervention. It represents one of the most frequent reasons for consultation in surgery, with a worldwide incidence estimated at 4.6% of the population.*
Objective*: Describe the epidemiological, clinical aspects and therapeutic modalities of sublocal hernia repair of inguinal hernias in adults in the territory of Mulongo.*
Materials and Methods*: This descriptive cross-sectional and prospective study was conducted during a campaign of free general surgery operations in Mulongo, Haut-Lomami, DRC, between June 1, 2021 and December 31, 2021. Local anesthesia with xylocaine was used. The parameters evaluated were frequency, age, sex, anatomo-clinical type, type of anesthesia and postoperative evolution.*
Results :*A total of 162 patients were included. The mean age was 41.5 years (range: 18-70). There were 90.7% men, the sex ratio was 9.8. The hernia was simple in 95.6% of cases and located on the right in 50% of cases. In 4.4% of cases the hernia was operated on urgently (strangulated and engorged and painful). Postoperative pain was the most common postoperative complication found in 54.9% of cases.*
Conclusion*: The management of inguinal hernias in adults in Mulongo is often carried out under local anesthesia, due to the high prevalence of this pathology in the professional context of patients.*
Inguinal hernia thus remains a significant problem in this region, justifying adapted approaches such as local anesthesia.

Keywords*: inguinal hernia, local anesthesia, Mulongo*

Date of Submission: 24-10-2024 Date of Acceptance: 04-11-2024

I. Introduction

Inguinal hernia is a common pathology in the population and a common concern in general surgery departments. The incidence is variable and estimated at 4.6% of the population [1]. In the rural context, hernia is particularly common in rural or semi-rural areas and has a particular character by the volume, the duration of evolution and the frequency of complications. It is mainly a hernia due to parietal weakness and most often affects male subjects between 20 and 60 years old [2]. Lifting heavy things, the profession (fishermen, farmers, living conditions, the arduousness of the work, permanent visceral ptosis contribute to aggravating parietal weakness.

II. Materials And Methodology

A prospective cross-sectional descriptive study was carried out during the free surgery campaign in Mulongo from June 1 to December 31, 2021, in the Haut-Lomami province, in the Democratic Republic of Congo. The objective of this project carried out in an academic and humanitarian framework by a team from the surgery department of the University of Lubumbashi supported by the Garengaze Church was to make quality surgical care accessible to rural populations and is part of one of the three objectives assigned to the university, namely to provide service to the community.

As part of the mission, a team of 1 general surgeon who is a university professor, head of the mission and 3 assistant physicians in their final year of training in general surgery supported by 3 local physicians and 2 local nurse anesthetists was formed. Patient recruitment was carried out on the basis of free itinerant consultations throughout the region carried out on the 1st day. The targeted conditions were general surgery. Patients for whom an indication for surgery was proposed systematically underwent a summary preoperative assessment (blood

group, Rhesus, bleeding time, clotting time, hemoglobin) and a pre-anesthetic consultation. Note that this region is devoid of possible imaging (no standard X-rays) but an old ultrasound machine is operated there by the only director physician who is not a trained imager; and blood biochemical tests are not carried out there due to a lack of inputs (no urea or creatinine dosage in prostate patients); hence the clinic was the main source of pre-operative diagnosis.

The study involved 162 adult patients operated on for complicated or uncomplicated inguinal hernia in the department during the study period. The variables studied were all epidemiological: frequency, age of patients, sex, anatomo-clinical type, and postoperative evolution.

The intervention is performed according to the Bassini and Shouldice technique. The treatment took place in the operating room, under AL using Physiological Serum 1l + 4 bottles of 10ml of lidocaine 2% + 2 amp of Adeline 1mg this solution was baptized under the name of SAPHYLIC, using a disposable syringe, The conduct of the AL in detail is done in several stages:

- The first stage takes place the day before the operation, the surgeon explains to the patient the advantages of AL: elimination of the risks specific to general anesthesia or spinal anesthesia, reduction of postoperative pain which is delayed and shortened, allowing immediate resumption of walking and a light diet upon returning to the room, reduction in the length of the hospital stay, earlier resumption of activity, and the only disadvantage of AL: the apprehension that the patient may have about it. The surgeon's personality makes him accept these constraints more or less easily.
- During the operation, regular explanations are provided to the patient in order to reassure him, to be gentle in his movements and to remain calm.
- Infiltration of the anesthetic solution of the abdomino-genital nerves 3 cm inside the anterior and superior iliac spine using a syringe with a long intramuscular needle. The needle is oriented outwards and downwards, perceiving the crossing of the aponeurosis of the greater oblique, then the bony contact of the iliac wing. After withdrawal and aspiration in order to avoid an intravascular injection, 2 to 3 ml of solution are injected between the transverse Mx and the small oblique, then the needle is oriented downwards and inwards, infiltrating in a fan shape.
- The intradermal plane of the incision line is first infiltrated, then the depth, plane by plane and in a fan shape, (always aspirating before injecting),
- An infiltration is necessary at the level of the pubic spine, inside and behind the termination of the rectus abdominis muscle. It can be performed through the skin or more easily during the operation after dissection of the cord.
- With the aponeurosis of the greater oblique open and the border fields placed, the root of the cord is then infiltrated (genito-crural nerve) using the 10Cc syringe; This injection facilitates the dissection of the cord and the ligation of the cremaster muscles.
- The identified peritoneal sac must be numbed in turn in order to dissect, tie and resect it painlessly.
- There were at least 3 painful moments that some patients had reported: the incision of the transversalis fascia at the level of the pubic spine, the forcipressure of the funicular vessels when the genital branch of the genitocrural is included in the socket, the passage of the needle in the arch when the deep orifice is narrowed during the first over-seam. It is then necessary to infiltrate to continue the treatment.

Data collection for the study was first carried out prospectively during the surgical mission and then once back in Lubumbashi, the monitoring of the few hospitalized patients was ensured by the local team that accompanied us and transmitted the daily report until the discharge of the last patient of the campaign. We thus have a six-month perspective of all patients operated on during the said campaign. The data were recorded in Microsoft Excel 203 then processed by the same program for statistical calculations and Word 2013 software for the writing of this article.

III. Results

During the study period we recorded 162 cases of adult inguinal hernia out of 531 operated patients, representing a frequency of 30.50% of patients operated on during our campaign in Mulongo.

There were 147 men (90.7%) and 15 women (9.3%). The average age was 41.5 years with extremes of 18 and 70 years. The hernia was simple in 155 patients (95.6%), engorged and painful in 2 patients (1.2%) and strangulated in 5 patients (3.2%). The hernia was located on the right in 50% of cases (n = 81), on the left in 33.3% of cases (n = 54) and bilateral in 16.7% of cases (n = 27).

In 132 patients the hernia was inguinal (81.4% of cases), in 29 patients it was inguino-scrotal (18%) and in one case it was bilateral (left inguinal and right inguinoscrotal) i.e. 0.6%. All patients with a simple hernia were operated on in elective surgery and those with a strangulated or engorged and painful hernia in emergency. Local anesthesia was converted to general anesthesia in 16 patients (9.8% of cases). The patients were operated on via the inguinal approach.

IV. Discussion

The frequency of inguinal hernia in adults was relatively high in our study with a frequency of 15.2% of all surgical procedures performed during the study period. This result is relatively high compared to some African studies which found a prevalence of 4.6% of the population [3,4]. Our result is comparable to that of Konate et al. [5] who also found a prevalence of 15.3%. It is nevertheless curious to note that despite the multitude of studies on inguinal hernia and in particular on its treatment, very few studies highlight its prevalence in the world in general and more specifically in Africa. Most of them are old studies dating back at least thirty years. Our result could be explained by the fact that our hospital at the base is a company hospital in the agricultural sector and that nearly 95% of our population are workers who carry out intense and repeated physical activity in addition to the personal subsistence field work that they do at the end of their working day.

The mean age of our study was 41.5 years with extremes of 18 and 70 years. Young age is frequently found in African studies [5-7], probably due to the fact that in most regions of developing countries agricultural activity represents the main mode of subsistence of the populations and the repeated physical efforts required for this activity at this age as well as the use of the abdominal strap are determining factors in the genesis and/or aggravation of the parietal defect. Inguinal hernia was predominant in the male sex, i.e. 90.7% of cases with a sex ratio of 9.8. Our results are consistent with those found in most studies on the subject [5, 8, 9]. Some authors have explained this male predominance by an anatomical difference between the two sexes: in men, the inguinal canal is crossed by the spermatic cord, which makes it fragile, which is not the case in women whose inguinal canal only contains the round ligament [10]. Our results could be explained by the fact that the majority of our patients are manual laborers linked to the agricultural production activity of the company and that women are less inclined to perform activities requiring significant physical effort.

Inguinal hernia most often occurs on the right without any etiopathogenic explanation. In 50% of cases it was located on the right in our study; which is consistent with those found in the literature [6, 11, 12]. The hernia was bilateral in 16.7% of cases without any associated contributing factor. Konate et al. [5] and Traore et al. [8] had noted low rates of bilateral hernia in their series with 5.7% and 6.7% respectively while Diop et al. [9] noted a rate similar to ours with 14% of bilateral hernia. This high rate in our study is explained by the significant physical efforts observed in our patients in their professional activity. We noted a relatively high rate of inguino-scrotal hernia in our series with 18% of cases Dieng et al. [6] and Diop et al [9] had noted much higher rates of inguino-scrotal hernia in their series with 77.2% and 53% of cases respectively. We believe that this high rate of inguino-scrotal hernia could have several explanations, sometimes intertwined, in our context: first of all, the fear of surgical intervention which would lead patients not to consult quickly or to consult only when a complication occurs; also the taboo nature that the external genitalia of the man still have in our society, particularly among people living in rural areas where beliefs are based more on "hearsay" than on proven scientific data; finally, socio-economic difficulties. Spinal anesthesia was the most frequent mode of anesthesia in our study with 91.9% of cases.

The choice of this anesthetic mode was justified by the advantages offered by this method, both technical and economic. All patients in our study were operated on via the inguinal approach. Due to the modest technical platform, we have no experience with coelioscopy for this indication. However, we believe that there are cultural differences between surgeons, countries and regions. The best surgical technique should guarantee a low risk of complications (pain, recurrence), reproducible results and a short convalescence, it should be relatively easy to learn and be economically accessible to the average Cameroonian. In addition, European recommendations concluded in 2009 that coelioscopy and open surgery were comparable in terms of long-term results after a minimum follow-up of 48 months [13,14]. In our practice conditions, this technique is not advantageous for this indication compared to laparotomy. Given its cost, it would not be accessible to our populations.

All uni- or bilateral inguinal or femoral hernias can be operated under LA regardless of the repair technique used, and regardless of the age and general condition of the patient [21]. Incidents are rare. Toxic reactions can be seen in case of overdose. Indeed, the action on the nervous system is rapid and results in agitation, headaches, logorrhea, sometimes convulsions. The action on the cardiovascular system causes conduction disorders with a drop in blood pressure.

LA in hernia repair has been systematically performed by the Canadian team with success since 1975 [22]. given the many advantages: it avoids artificial relaxation of the musculo-aponeurotic planes, and sutures under traction. It prevents thromboembolic complications thanks to rapid mobilization and it is more economical. During hernia repair, the possibility of making the patient cough and push facilitates the search for an associated sac, and allows testing the strength of the first suture plane of the transversalis fascia [23]. Strangulated hernias can be operated on as soon as they arrive at the emergency department. Early removal of the ischemic agent without delay makes it possible to avoid intestinal excision in many cases [22].

V. Conclusion

Inguinal hernia remains a common pathology in our daily surgical practice. It is very rarely associated with a contributing factor in our context. Nevertheless, due to the significant physical activity of our populations, AL for the treatment of inguinal hernia has proven its effectiveness and safety as well as its economy for the patient, health, and for society.

Infiltration of the sensory nerves of the inguinal region and the incision line allows for gentle surgical treatment. The good results of this method can only be conceived after a good conviction of the patient by sufficient information before the intervention in order to overcome reluctance and provide great satisfaction to both the surgeon and his patient.

Statement

The authors declare that they have no conflicts of interest concerning this article.

Authors' Contributions

All authors have read and approved the final version of the manuscript.

References

[1] Kingsnorth A, Leblanc K. Hernias: Inguinal And Incisional. Lancet. 2003 Nov 8;362(9395):1561-71.
[2] Ananian P, Barrau K, Balandrau P, Le Treut Yp. Surgical Treatment Of Inguinal Hernias In Adults: Clinical, Functional And Economic Issues Of Surgical Practices. J Chir. 2006;143(2):76-83.
[3] Koumare K, Diop Kt, Ongoiba N, Bouare M, Simpara D. Retrospective Evaluation Of 4539 Inguinal Hernia Cures Performed By District General Practitioners In Mali. Méd Afr Noire 1991;38(2):1137-141.
[4] Sangaré D, Soumare Cissé Ma, Sissoko F. Surgery For Groin Hernias Without Hospitalization. Lyon Chir 1992;88(5):437-9.
[5] I Konate, M Cissé, T Wade, Pa Ba, J Tendeng, B Sine, M Dieng, Y Alami, A Dia, Ct Toure. Management Of Inguinal Hernias At The Surgical Clinic Of Aristide Le Dantec Hospital In Dakar: A Retrospective Study Of 432 Cases. J Afr Chir Digest 2010;10(2):1086-9.
[6] Dieng M, El Kouzi B, Ka O, Konaté I, Cissé, Sanou A, Sanoussi Y, Dia A, Touré Ct. Strangulated Hernias Of The Groin In Adults: A Series Of 228. Mali Med. 2008;23(1):12-6.
[7] Enyinnah M,Dienye Po,Njoku P. Inguinal Mesh Hernioplasties: A Rural Private Clinic Experience In South Eastern Nigeria.Glob J Health Sci.2013 May 13;5(4):176-81.
[8] Traoré D, Diarra L, Coulibaly B, Bengaly B, Togola B, Traoré A, Traoré H, Ongoïba N, Sissoko F, Koumaré Ak. Inguinal Hernia In Sub-Saharan Africa: What Role For Shouldice Technique?Pan Afr Med J.2015 Sep 18; 22:50.
[9] Diop B, Sall I, Sow O, Ba Pa, Konate I, Dieng M, Wilson E, Wane Y, Sarre Sm. Management Of Inguinal Hernias With Prostheses According To The Lichtenstein Procedure: A Study Of 267 Cases. Health Sci Dis. 2017;19(1):69-73.
[10] Brévart C, Moncade F, Bronstein Ja. Groin Hernias In Adults. Emc Gastroenterology. 2012;7(1):1-10.
[11] Mehinto Dk, Roux Oj, Padonou N. Management Of Strangulated Groin Hernias In Adults Based On 295 Cases (Benin). J Afr Chir Digest. 2003;3(2):1-5.
[12] Mbah N. Morbidity And Mortality Associated With Inguinal Hernia In Northwestern. West Afr J Med. 2007;26(4):288292.
[13] Simons Mp, Aufenacker T, Bay-Nielsen M, Bouillot Jl, Campanelli G, Conze J Et Al. European Hernia Society Guidelines On The Treatment Of Inguinal Hernia In Adult Patients. Hernia. 2009;13(4):343–403.
[14] Amato B, Moja L, Panico S, Persico G, Rispoli C, Rocco N Et Al. Shouldice Technique Versus Other Open Techniques For Inguinal Hernia Repair. Cochrane Database Syst Rev. 2009 Oct 7;(4):Cd001543.
[15] Desarda Mp. Physiological Repair Of Inguinal Hernia: A New Technique (Study Of 860 Patients). Hernia. 2006;10(2):143–6.
[16] Dieng M, Cissé M, Seck M, Diallo Fk, Touré Ao, Konaté I Et Al. Cure Of Simple Inguinal Hernias In Adults By Plasty With The Aponeurosis Of The Superior Oblique: Desarda Technique. E-Mémoires Anc 2012;11(2):69-74.
[17] Alfieri S, Amid Pk, Campanelli G, Izard G, Kehet H, Wijsmuller Ar Et Al. International Guidelines For Prevention And Management Of Post-Operative Chronic Pain Following Inguinal Hernia Surgery. Hernia 2011;15(3):239-49.
[18] Martin F Bjurstrom, Andrea L Nicol, Parviz K Amid, David C Chen. Pain Control Following Inguinal Herniorrhaphy: Current Perspectives. J Pain Res. 2014;7:277-90.
[19] Olasehinde O, Lawal Oo, Agbakwuru Ea, Adisa Ao, Alatise Oi, Arowolo Oa, Adesunkanmi Ark, Etonyeaku Ac. Comparing Lichtenstein With Darning For Inguinal Hernia Repair In An African Population. Hernia. 2016;20(5):667-74.
[20] Arvidsson D, Berndsen Fh, Larsson Lg, Leijonmarck Ce, Rimback G, Rudberg C Et Al. Randomized Clinical Trial Comparing 5-Year Recurrence Rate After Laparoscopic Versus Shouldice Repair For Primary Inguinal Hernia. Br J Surg 2005;92(9):1085-91.
[21] P. Lepicard. Inguinal Hernia Cures Under Local Anesthesia La Presse Med. 1994, 23, N°17
[22] J.K. Clezy. Inguinal Hernia Repair Under Local Anaesthesia. Pngmj 1994, Sep. 37, (3); 189-91.
[23] . Ph. Legroux. Local And Surgical Outpatient Anesthesia For Inguinal Hernia. Cahiers D'anesthésiologie - Volume 41 N°4 - 1993 - P. 331 To 333.