



Original Article

Short-Terms Results of Hernia Management in Yokadouma District Hospital - Cameroon

Résultats à Court Terme du Traitement des Hernies à l'Hôpital de District de Yokadouma-Cameroun

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ABSTRACT

Introduction. Hernia management is largely neglected as a public health priority in developing countries where herniorraphy with suture line tension is commonly used, especially in peripheral zones. This study aimed to evaluate the treatment of hernias in a peripheral area of Cameroon. **Patients and methods.** A descriptive 14-months study was carried out from January 2019 to February 2020, at the general surgical Service of the Yokadouma District Hospital. Demographic data, clinical presentation, surgical data, and 30-day postoperative outcomes were collected. **Results.** Seventy-three (73) patients (86.9%) were men, 58 patients (69%) were farmers and the average age was 50 years (extremes 25 and 75 years). Inguinal hernia was found in 58 patients (69%) and 17 patients (20.2%) presented with strangulated hernia. Ninety-one (91) surgical procedures were performed in the 76 patients with groin hernia, including 48 suturing (52.7%) and 43 Lichtenstein procedures (47.3%). The patients with other types of parietal hernias received only suturing procedures. The postoperative morbidity was 4.8% and no death was found postoperatively. **Conclusion.** Many technics are used for hernia repair in Yokadouma District Hospital, with suturing procedures being the most administered. However, Lichtenstein's technique is widely used. Postoperative morbidity and mortality are low.

RÉSUMÉ

Introduction. Le traitement des hernies est largement négligé en tant que priorité de santé publique dans les pays en développement où les herniorraphies sont couramment utilisées, notamment en zone périphériques. Cette étude avait pour objectif d'évaluer le traitement des hernies dans une zone périphérique du Cameroun. **Méthodologie.** Une étude descriptive d'une durée de 14 mois avait été réalisée de janvier 2019 à février 2020, au service de chirurgie générale de l'Hôpital de District de Yokadouma. Les données démographiques, la présentation clinique, les données chirurgicales et les résultats postopératoires à 30 jours ont été collectés. **Résultats.** Soixante-treize (73) patients (86,9 %) étaient des hommes, 58 patients (69 %) étaient des agriculteurs et l'âge moyen était de 50 ans (extrêmes 25 et 75 ans). Une hernie inguinale était retrouvée chez 58 patients (69 %) et 17 patients (20,2 %) présentaient une hernie étranglée. Quarante-vingt-onze (91) interventions chirurgicales ont été réalisées chez les 76 patients présentant une hernie inguinale, dont 48 herniorraphies (52,7 %) et 43 interventions de Lichtenstein (47,3 %). Les patients présentant d'autres types de hernies pariétales n'ont reçu que des procédures de suture. La morbidité postopératoire était de 4,8 % et aucun décès n'a été constaté en postopératoire. **Conclusion.** De nombreuses techniques sont utilisées pour le traitement des hernies à l'Hôpital de District de Yokadouma, les herniorraphies étant les plus pratiquées. Cependant, la technique de Lichtenstein est largement utilisée. La morbidité et la mortalité postopératoires sont faibles.

POUR LES LECTEURS PRESSES**Ce qui est connu du sujet :**

La hernie est, de par sa fréquence en milieu rural, un véritable problème de santé dans le monde

La question abordée dans cette étude :

Evaluer le traitement des hernies dans une zone périphérique du Cameroun.

Ce que cette étude apporte de nouveau :

De nombreuses techniques sont utilisées pour le traitement des hernies à l'Hôpital de District de Yokadouma, les herniographies étant les plus pratiquées. Cependant, la technique de Lichtenstein est largement utilisée. La morbidité et la mortalité postopératoires sont faibles.

Les implications pour la pratique, les politiques ou les recherches futures :

Equiper les hôpitaux de district pour varier les techniques de prise en charge des hernies.

INTRODUCTION

Hernias are one of the most commonly encountered surgical conditions and every year, more than 20 million hernias repairs are performed worldwide [1]. The surgical management of hernia, however, is largely neglected as a public health priority in developing countries, despite the cost effectiveness [2,3]. There are indications of a higher demand for hernia repair among African men compared with their European counterparts [4]. Prior studies have revealed that hernia cases in Sub-Saharan Africa frequently go untreated, resulting in substantial preventable morbidity and mortality [5-7]. A systematic review of studies investigating unmet surgical need determined that rural district hospitals in Sub-Saharan Africa often cannot meet the surgical needs of the populations they serve. The average annual surgical volume of inguinal hernia repairs in rural district hospitals (30 per 100,000 population) is estimated to be far below the total annual need (175 per 100,000 population) [8].

In eastern Uganda, less than one-third of adult men with groin hernias received surgical treatment for their conditions [9]. Likewise, in Sierra Leone, only 22% of men reporting a need for medical care for a hernia condition underwent a surgical procedure. Rather, hernia repairs in the Sub-Saharan African region are often times performed under emergency circumstances [10]. More than 40% of identified groin hernias in Eastern Uganda were operated as emergencies [9]. This aim of this study was to determine the different methods used in the management of hernias at Yokadouma District Hospital, in a semi-urban area of Cameroon.

MATERIALS AND METHODS

We carried out a descriptive study with retrospective data collection for a 14-month period spanning from 1st January 2019 to 29 february 2020 at the surgical unit of the Yokadouma District Hospital, a 4th category hospital in national health pyramid of Cameroon. The files of all the patients operated on for hernia during the study periods were reviewed. The incomplete files were excluded. The socio-demographic, clinical, paraclinical, therapeutic and outcomes data of the patients were collected. The postoperative course should be known

within 30 days of surgery.

All data were analysed with CSPRO and Microsoft Excel 2016. Counts and percentages were determined for categorical variables and means and standard deviations (mean \pm SD) calculated for the continuous variables.

RESULTS

We collected 84 patient's files. They were 73 men (86.9%) and 11 women (13.1%) with a sex ratio of 6.6. Their mean age was 50 years with the extremes of 25 and 75 years. Among them, 43 patients (51.2%) had less than 45 years. Fifty-eight (58) patients (69%) were farmers. The socio-demographic characteristics of the study population are reported in Table 1.

Table I: Baseline characteristics of patients.

| Variables | Numbers | Percentage |
|--------------------|---------|------------|
| Sexe | | |
| Male | 73 | 86.9 |
| Female | 11 | 13.1 |
| Age (years) | | |
| ≤ 45 | 43 | 51.2 |
|]45-65] | 29 | 34.5 |
| > 65 | 12 | 14.3 |
| Profession | | |
| Farmer | 58 | 69 |
| Tailor | 3 | 3.6 |
| Driver | 1 | 1.2 |
| Housewife | 10 | 11.9 |
| Trader | 1 | 1.2 |
| Carpenter | 11 | 13.1 |

Twenty-eight (28) patients (33.3%) had right inguinal hernia, 15 patients (17.9%) had left inguinal hernia. Bilateral inguinal and inguinoscrotal hernias were found in 15 cases (17.9%) each (Figure 1).

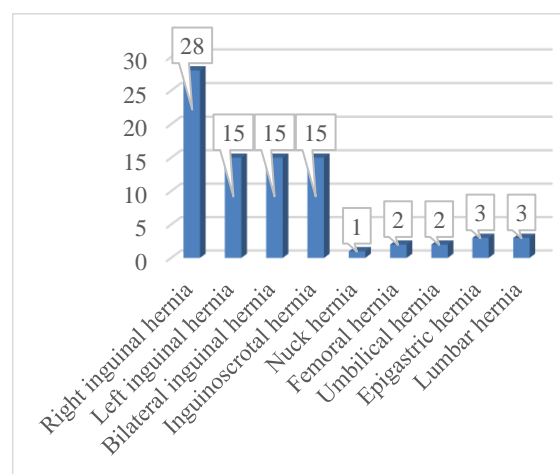


Figure 1: Type of the hernia

The hernia was strangulated in 17 patients (20.2%) and non-strangulated in 67 patients (79.8). For the groin hernias, a total of 43 Lichtenstein procedures (47.3%) was realized and modified Bassini repair was offered in 34

cases (37.4%). The different surgical procedures administered are given in Figure 2.

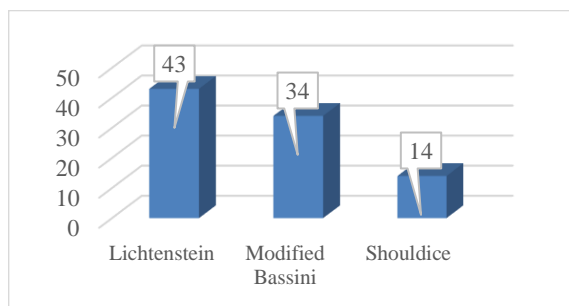


Figure 2: Surgical technics in groin hernias

For the patients received with a strangulated hernia, 6 (35,3%) were given a Lichtenstein procedure and in the remainers, suturing procedures were administered. The other parietal hernias were treated by suturing technics, simple or overlapping sutures. Seventy-seven (77) patients (91.7%) had a postoperative hospital stay of 1 to 3 days. A hospital stay of 10 days was recorded in one patient (Figure 3).

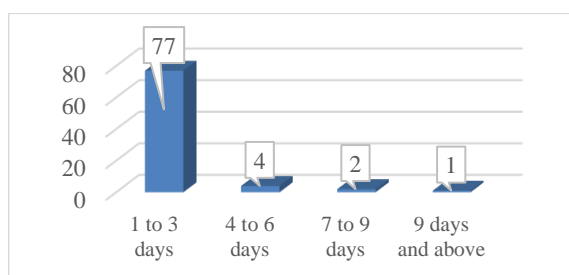


Figure 3: Postoperative hospital stays

During the 30 days following surgery, six complications were recorded in 4 patients, giving a postoperative morbidity of 4.8%. There were 5 cases of non-infected hematoma and one case of superficial surgical site infection. The evolution had been favorable in all cases. The infected patient lived far from the hospital and preferred to remain hospitalized until complete recovery. No postoperative death was recorded in this series.

DISCUSSION

This study presents the distribution of different types of parietal hernias within a semi-urban population of Cameroon. The different surgical techniques practiced and the short-term surgical outcomes are described. She thus suggests that hernia repair can be achieved safely in a district hospital with limited resources like Yakadouma District Hospital. Studies on larger samples, extended to several localities with different socio-professional characteristics and with a longer follow-up are however necessary.

The male predominance and the young age of the patients in this series are noted by many authors [11-17]. This can be explained by the fact that, most manual labour needed for physical hard activity such as farming in the area are giving by young males. Indeed, a significant proportion of

patients carry out physical activity which would expose them to developing a hernia. This is in accordance with a case control study of Carbonell et al [11] who show that physical effort is the only significant risk factor for hernia. Inguinal hernia is the most common hernia and is most often located on the right site [12,14,16-18]. These findings were verified in this series. This is in accordance with a study done by Kingnorth et al [1] whose study shows that inguinal hernia account for 75% of abdominal wall hernias. Complicated hernias are very common in Sub-Saharan Africa practice as reported by many authors [13,19]. This situation accounted for 20.2% of patients in this study.

Regarding treatment, several techniques have been developed. Alongside old suture techniques which use the patient's often weakened tissues for repair, there are prosthetic techniques. They use different synthetic or biological materials in order to reinforce the wall. They lead to less postoperative pain and fewer recurrences. The use of these materials is thus recommended by learned societies [20,21]. However, these materials have a cost which limits their use in regions with limited resources, as reported in numerous series. Forty-three (43) prosthetic procedures (47.3%) were performed in this study. This suggests that even in resource-limited settings such as Yakadouma's locality, hernia repair can be done according to international recommendations. The Shouldice technique was used very little in this study. In their study evaluating the place of this technique in the treatment of hernia in Sub-Saharan Africa, Traore et al [19] found very good results with this technique and recommend it as the technique of choice for the treatment of inguinal hernia in developing countries.

Hernia repair is usually achieved with no major complications [15,22-24]. The most frequently reported complication is scrotal hematoma [15,22-24]. This is verified in this series. Mortality related to hernia surgery is low [12,13,22,25]. However, some authors have reported a mortality of up to 9.7% in relation to a long duration of symptoms, late admission, associated pathologies, high ASA score, delay in treatment, intestinal resections and presence of complications [14]. Despite the presence of complicated forms in this series, no deaths have been recorded.

CONCLUSION

Many techniques are used for hernia repair in Yakadouma District Hospital, with suturing procedures being the most administered. However, Lichtenstein's technique is widely used. Postoperative morbidity and mortality are low.

CONFLICTS OF INTEREST

No conflicts of interest concerning the authors

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