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STUDY OF EPIDEMIOLOGICAL, CLINICAL AND THERAPEUTIC ASPECTS OF ADULT UMBILICAL HERNIA IN RAMADI CITY/IRAQ

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ABSTRACT
The current retrospective and descriptive study was carried out in the visceral surgery department during 3 years (January 2017 to December 2019) on umbilical hernias in adults. The study aimed to report epidemiological, clinical and therapeutic results. In this study, (50) patients underwent herniorraphy. The average age was 50 years. The female gender was dominant (60.0%). Physical work, multiparity, overweight were the predisposing factors. The aesthetics of the abdominal wall, mimic abdominal pain, hernial infatuation were the reasons for consultation. The dimensions of the collar were classified into 3 types: Small hernia: diameter of the collar <2 cm (n = 22; 44%), medium hernia: diameter between 2 and 4 cm (n = 18; 36%) and bulky hernia: diameter > 4 cm (n = 10; 20%). The approach was a laparotomy. The herniorraphy by simple suture (n = 20), the herniorraphy by plasty according to Mayo (n = 5) and prosthetic hernioplasty (n = 25) were the operating techniques. The polypropylene prosthesis was placed in 23 patients with retro aponeurotic pre-peritoneal and 2 in pre-aponeurotic retro muscle in case of laborious dissection. The results were excellent in 45 (90%) patients. The morbidity was 5 cases (10%) including: 2 parietal infections, 1 seromas, 1 hematoma and 1 recurrence. It can be concluded that it is important to decide on a wall repair before complications arise, and we support prosthetic hernioplasty in adult umbilical hernias.

KEYWORDS: Umbilical hernia, Herniorraphy, Hernioplasty, Prosthesis.

INTRODUCTION
Umbilical hernia is common in our daily practice. The operative indication is often aesthetic, discomfort or local abdominal pain. The umbilical hernia presents as a reducible and painless navel mass. It may be barely visible or more obvious as a result of increased abdominal pressure.[1] The risk of strangulation makes hernia repair a common surgical practice in our department.

It is a pathology most often benign but which can have complications involving life-threatening such as strangulation.[2] In Ramadi (Iraq), the umbilical hernia is quite common in the adult population, however it attracts little attention. The objective of this work is to report the epidemiological, clinical aspects, operating procedures and therapeutic results.

PATIENTS AND METHODS
Our study is a retrospective and descriptive mono-centric study of simple or complicated umbilical hernias in adults. The variables studied were: epidemiological, clinical and therapeutic aspects. All of the information was gathered from hospital records and operative reports. The criteria for non-inclusion were the other types of parietal hernias (white line, groin and Spiegel). All patients selected for implant placement received a single dose of 2 g of amoxicillin-clavulanic acid administered intravenously preoperatively. The data collected on pre-established cards were analyzed on an Excel table and by comparison of the percentages and the means.

RESULTS
From January 2017 to December 2019, (50) consecutive primary umbilical hernias were collected in the General surgery department in 3 years, with an annual average of 10.2 cases. There were 30 (60%) women and 20 (40%)

men with an average age of 51 years [34-70]. The sex ratio (F/M) was 1.5. The medical history was dominated by multiparity in all women with an average parity of 2, chronic constipation (n = 15) and chronic cough (n = 5). On the professional level, we found the farmers (n = 10), the workers (n = 11), the civil servants and the students (n = 9). Fifteen women and 5 men were overweight with a body mass index between 25 and 30.

Thirty patients consulted for aesthetic reasons, 15 for periodic local abdominal pain with discomfort and 5 cases for hernia infatuation. The patients were examined in standing and supine positions. The dimensions (diameter) of the umbilical hernias were as follows: less than 1 cm (n = 22, 44%); between 2-3 cm (n = 18, 36%) and greater than 4 cm (n = 10, 20%). The biological assessment and the radiography of the thorax were systematic and came within the framework of the anesthetic consultation.

All patients were operated under general anesthesia. The primary approaches were a left lateral midline laparotomy straddling the navel in 60% (n=30) or a lower hemicircular cosmetic skin incision under the umbilical in 40% (n=20). This incision was more practiced in women for aesthetic reasons. The surgical techniques were: a simple herniorraphy (n = 20), i.e. a resection of the sac associated with a simple closure of the umbilical ring, a herniorraphy with plasty performing a suture in overcoat according to the Mayo technique (n = 3) or a prosthetic hernioplasty (n = 27). The non-absorbable polypropylene prosthesis was placed openly in 23 patients in retro aponeurotic pre-peritoneal and 2 in pre-aponeurotic retro muscle in case of laborious dissection. The parietal repair was edge- to-edge suture autoplasty of the fascial banks. It was carried out by separate stitches with a non-absorbable thread where a slow absorption. Four patients underwent emergency surgery for hernial infatuation**,** including two women in first trimester pregnancy. Postoperative oral prophylactic antibiotic therapy was initiated in all patients the day after the intervention. Preventive dose low molecular weight heparin thromboprophylaxis was recommended in at risk patients.

The result was excellent in 45 patients. We found a morbidity rate of 5 cases (10%): wall infection (n = 2), seroma (n = 1), hematoma (n = 1), recurrence (n = 1) as shown in figure (1). The length of hospital stay varied from one to 5 days with an average stay of 3 days. Regular follow-up of the patients was 6 months [4 -13 months].

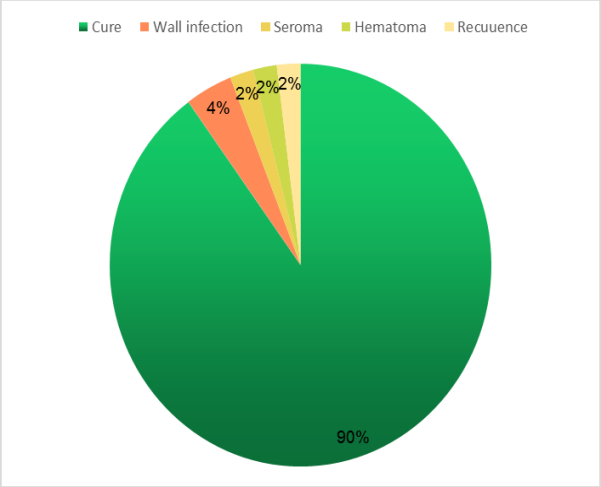

Figure 1: Surgery outcome.

DISCUSSION

The umbilical hernia represents 6% of the entire abdominal wall in adults.[3] It is commonly diagnosed in general surgery, approximately 10% of all hernias of the abdominal wall are defined as an umbilical hernia and the prevalence in the adult population is 2%.[4] One study has shown that the umbilical hernia represents 16% of all hernias of the abdominal wall that have undergone surgical treatment.[5] The average age of our patients is 51 years with extremes ranging from 34 to 70 years. The female sex is predominant with a rate of 60%. Our results can be superimposed on the literature.[6,7] Predisposing factors include extreme obesity, multiparity, and physical labor, cough and chronic constipation. These factors have already been reported by other authors.[8]

The abdominal aesthetic is the reason for the consultation of a large part of our cases. The rest of the patients had minimal intermittent abdominal pain that was seen as simple discomfort. The positive diagnosis of an umbilical hernia is clinical, the size of the collar varies from a simple centimeter orifice, giving rise to an intermittent swelling, to the voluminous hernia permanently externalized. From a surgical point of view, umbilical hernias can be classified into 3 types according to the diameter of the collar: Small hernia: diameter of the collar <2 cm, Medium hernia: diameter between 2 and 4 cm, Bulky hernia: diameter> 4 cm.[2] The abdomen without preparation standing from the front and the abdominal computed tomography were requested in search of signs in favor of a complication such as hernial infatuation.

The choice of operative technique depended on the individual and the surgeon's preference. 45 patients (90%) were operated on cold. These were planned interventions; the other 5 patients underwent emergency surgery for hernial infatuation. Median laparotomy straddling the navel and performed in 32 cases was dominant. We used 3 operating techniques: simple herniorraphy (40%), herniorraphy according to Mayo's

intervention (10%), and hernioplasty with prosthetic reinforcement by conventional way (50%). No laparoscopy has been done; we have no experience on this technique in our surgical team. It is generally accepted that repair by suture is sufficient for small hernias and that prosthetic repair for large hernias. The border between the two is not clearly identified; it is usually located 2 or 3 cm.[2]

Simple herniorraphy requires resection of the bag associated with simple closure of the umbilical ring. Two objectives are to be sought: to obtain a solid and functional repair of the abdominal wall on one hand, the conservation of the umbilicus guarantees a good esthetic result on the other hand.

The herniorraphy with plasty by the technique known as "Mayo" realizes a suture in "overcoat" horizontally or vertically.[9]

Reinforcement of the wall with a non-absorbable prosthesis often seems necessary if one does not want to be exposed to the risk of recurrence, observed in 10 to 20% of cases after simple suture for this type of hernia.[10,11] When no plan of cleavage preperitoneal can be released, force is to place the prosthesis in retro muscular, in front of the posterior sheet of the sheath of the great rights. This technique was practiced in 3 cases during our study.

The length of hospital stay varied from one to 5 days with an average stay of 3 days. Some teams perform surgery on small umbilical hernias on an outpatient basis and others may exceed the week of hospitalization when it comes to herniated pregnancies.[12] The operative suites were excellent in 90%. Complications were dominated by parietal and seroma infection. The infection is favored by the occurrence of either a hematoma or necrosis of the skin, especially since it is a specific area (diabetes, obesity).[13]

The seroma resolves over time and does not require any special treatment. Paul D. Colavita et al reported a rate of 3.6% in their study.[14]

Thromboembolic complications, although generally quite rare, are among the most formidable since they are likely to jeopardize the life of the patient. Recurrence was noted in one case (2%) after a Mayo-type plasty. Hernia diagnosis was clinical. Several factors have been implicated in the occurrence of recurrence: the size of the hernial opening, the surgical technique used, overweight, smoking, and many other comorbidities which have been confirmed by several studies in the literature.[15,16]

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