Sirte University Journal of Medical Sciences
مجلة جامعة سرت للعلوم الطبية
Journal Homepage https://journal.su.edu.ly/index.php/jsfsu

Prevalence of Hernia in Sirte, Libya: A Literature Review and Comparison with Western Countries

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https://doi.org/10.37375/sjms.v3i2.3168

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Keywords:
Hernia, **Prevalence of Hernia**, **Literature**

ABSTRACT

Inguinal hernias are the most prevalent in females, according to several sources in the western medical literature, followed by femoral and peri-umbilical hernias. However, our data in Sirte show that peri-umbilical hernias are the most common among females, with inguinal and femoral hernias lagging far behind. As a result, our Sirte data analysis differs significantly from those seen in journals and western medical texts. The article takes a critical approach on the causes behind the difference and explores the relevant literature.

1.0 Inroduction

Most sources of western medical literature indicate that although femoral hernias are more common in women than in men, inguinal hernias are the most common hernia in women (1), with peri-umbilical hernias coming in second. The research that follows shows how different the situation is in Sirte-Libya, and many other underdeveloped countries.

2.0 Patients and methods

A retrospective analysis was carried out on patients diagnosed with hernias who attended treatment at the Ibn-Sinna Teaching Hospital in Sirte-Libya between 2018 and 2022.

3.0 Results

In total, there were 218 cases. There were 62 females (28.4%) and 156 males (71.5%), a male to female ratio of 2.5:1. 81 patients (37.1%) were in their fourth decade of life, 72 (33%) were in their fifth decade, and 65 (29.8%) were in their third decade. 62 hernias (28.4%) were peri-umbilical, with the majority of patients being female. Inguinal hernias affected 119 patients (54.5%), most of whom were male.Third on the list of conditions affecting 31 patients (14.2%) was incisional hernia. Of the 6 patients (2.7%) that remained, only 3 (1.3%) developed femoral hernias, which are rarer in nature. If

we limit our analysis to female hernias (62 cases), peri-umbilical hernias 40 cases (64.5%) were the most common type. Incisional hernias: 12 cases (19.3%) came next, and inguinal hernias: 7 cases (11.2%), as well as 3 cases (4.8%) of femoral hernias. Middle-aged, obese, and multiparous women made up the vast majority of patients with periumbilical and incisional hernias. The three femoral hernia cases were older, thin women.

Discussion

A hernia is the protrusion of a viscus or part of a viscus through an abnormal opening in the walls of it's containing cavity(2). The Incisional hernias are excluded, the western literature ranks inguinal hernias as the most common external abdominal hernia in males and females(3) . Femoral hernias, despite being more common in women, rank second among external abdominal hernias in women, with peri-umbilical hernias coming in third.

But even without figures, every surgeon in Sirte is aware that many more periumbilical hernias are discovered every single day. Interestingly, when I examine the abdomens of women who have previously given birth and who present with various abdominal complaints, in addition to women who present with periumbilical hernias that they noticed or because they caused symptoms, an inguinal hernia or a femoral hernia is uncommonly encountered, I occasionally go months without seeing a femoral hernia. These observations are supported by the figures above, which show that periumbilical hernias are the

Figure 1. percentage of hernia

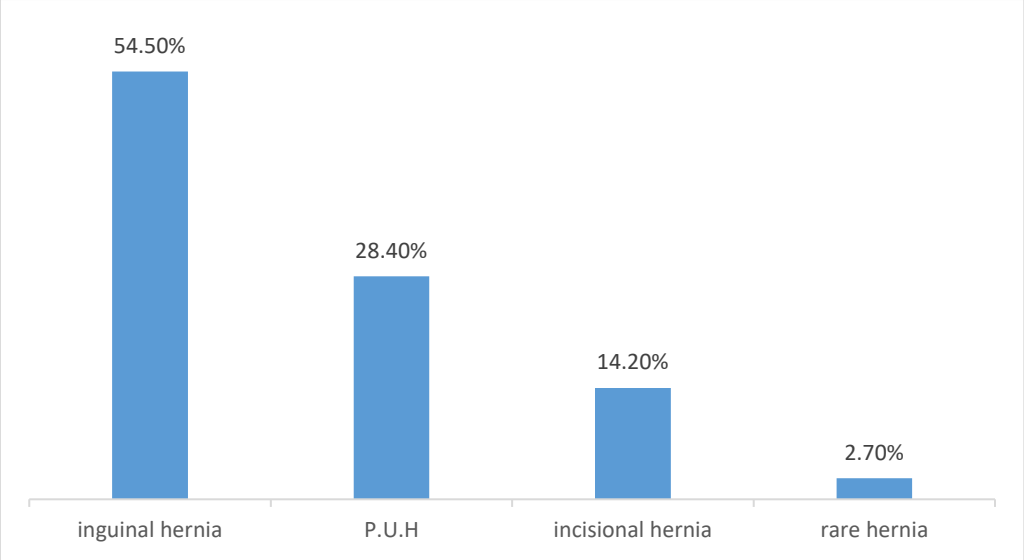
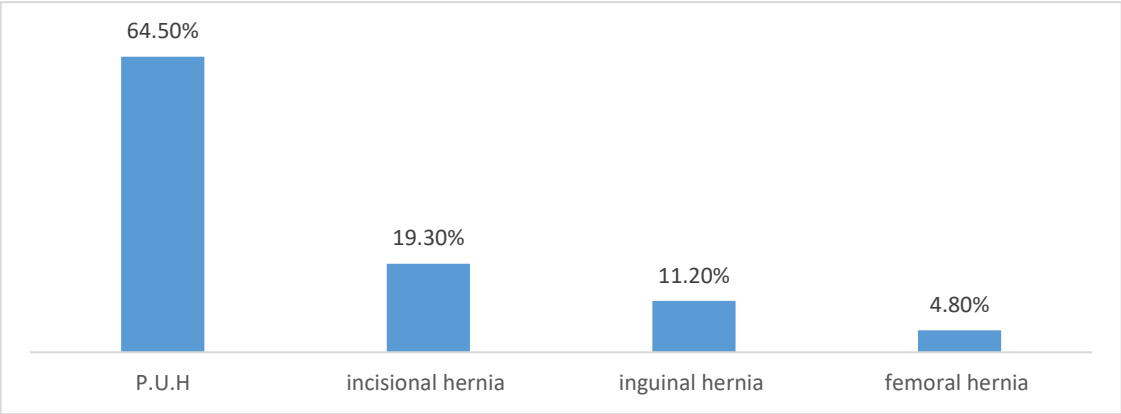


Figure 2. Percentage of hernia in female

most common external abdominal hernias in Sirte women. Then comes the inguinal hernia which is followed by the femoral hernia. Why is there a noticeable variation between the Sirte-libya and western countries in the prevalence of different types of external abdominal hernias? We think we may know the answer! One aetiological factor is obesity. It is



commonly recognized that fat weakens aponeuroses, which in turn favors umbilical, direct inguinal, and hiatus hernias by acting as a barrier separating muscle bundles and layers. It makes sense that periumbilical hernias would be common in middle-aged multiparous Sirte females who are obese. Perhaps the middle-aged woman from the West is more

motivated to maintain her weight loss and avoid gaining any more. Another significant aetiological factor is multiparity. Since sirte females are frequently multiparous, the repeated pregnancies stretch the muscles of the abdominal wall over several months, and the increased intrabdminal contents of the gravid uterus also put local pressure on these muscles, resulting in weak, flabby abdominal walls that frequently and easily hernitate. The frequency of periumbilical hernias in middle-aged Sirte multiparous females is significantly increased by the short time interval between subsequent pregnancies before stretched and compressed abdominal wall muscles regain their strength, as well as the majority of these women's ignorance about the need to perform abdominal wall exercises after delivery, despite their doctor's advice to that effect. Governments in the west are having problems making long-term plans because of the significant issue of declining birth rates. A middle-aged Sirte female may bring half or a dozen children, particularly in rural areas, but a western woman may not deliver or deliver only two. Spacing pregnancies and practicing exercises strengthening the abdominal wall muscles by the more figure, conscious western lady help the abdomen to regain its strength and thus avoid hernias. Another very important factor is the strenuous work of the Sirte female. Sirte females, especially in rural areas, do most of the strenuous work when the domineering male is recreating. She cares for the house and cleans it, cooks, takes care of her children. She also works on the farm, lifts heavy weights, etc., and since a powerful muscular effort is a cause of hernia, this daily strenuous work increases intraabdominal pressure in an abdomeen already weakened by obesity and repeated pregnancy, which explain why periumbilical hernias are so common in middle aged multiparous Sirte females. Supraumbilical hernias are more common than infraumbilical hernias(4), this is because the superior area of the umbilical ring is the weakest area in the ring, thus the most vulnerable area. periumbilical hernias are commonly irreducible due to present adhesions within a multi-locular sac(5). Surgery is the treatment of choice. In case of small defects (≤2-3 cms in diameter) primary anatomical repair can be done but in large defects (>2-3 cms in diameter) simple anatomical repair is associated with high recurrence rates. With the advent of mesh repair there was a drastic decline in recurrence rate. Prosthetic mesh can be placed as on-lay/overlay, inlay and underlay. In on-lay method after the sac is excised, the free edges of rectus are approximated, and the mesh is placed outside rectus sheath and fixed to it. Since it is placed outside abdominal cavity it has an advantage of nil contact with abdominal viscera. But it usually requires subcutaneous dissection, raising of flaps and drain insertion with increased incidence of wound complications such as infection. In inlay method, the mesh is placed within the defect of a hernia and fixed to adjacent tissue. In sublay or underlay method mesh is placed below the fascial components. The mesh can be placed intraperitoneally, preperitoneally, or in the retrorectus (retromuscular) space. Le Blanc KA and Booth WV in 1993 for the first time described laparoscopic incisional hernia repair by Intra Peritoneal On-lay Mesh (IPOM) insertion without defect closure (6). Laparoscopic repair of PUH has gained ground in recent years with reporting of fewer post-operative complications than the open approach (7) a femoral hernia cannot be controlled by a

truss, and it is the commonest hernia to strangulate (risk of strangulation 30-40%) due to the narrow neck of the sac and the rigid femoral ring(8). Our 3 cases were elderly, thin females, as is usually the case in western countries. The predisposing anatomical feature for femoral hernia is the small empty space between the lacunar ligamem medially and the femoral ring laterally (femoral canal)(9). The reason why femoral hernia is more common in females who have had previous pregnancies (double non-pregnants) is femoral ring dilatation caused by physical and biochemical changes during pregnancy, with laxity of abdominal muscles and ligaments(10). It is hypothesized that pressure from the gravid uterus on the external iliac vein may stretch the coverings around the femoral canal. After decompression of the vein, laxity exists in these tissues(11). Another identified cause in some people is that the insertion of the ilio pubic tract into the pectineal line of the pubis is narrower than normal, causing a wide femoral canal at the upper margin(12). Most reports state that femoral hernias are more common on the right side, however, three patients are too small a number to draw conclusions. The right leg being used more in severe exercise may be one explanation. For all types of hernias, a connective tissue abnormality may be involved in adult onset ones. A bnormalities the ultrastructure and the physico-chemical properties of collagen in patients with direct inguinal hernias suggest that the hernia is one manifestation of a generalized abnormality in collagen metabolism.

Conclusion

Different hernias have varying incidences, depending on the region. When it comes to hernias in Western females, inguinal hernias are the most common variety, with femoral hernias coming in second, though more often in females than in males. Peri-umbilical hernia is the most prevalent hernia in females in Sirte. The main causes of this hernia are the differences in weight, pregnancy, work, and lifestyle between Sirte and Western women(13).

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