



Abdominal Hernias in Adults at a Group of Syrian Population

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Abstract Objective: To study the prevalence of abdominal hernias in adults. **Materials and Methods:** This study was a retrospective study of the files of the patients who reviewed clinics performed an abdominal hernia procedure. We only included the patients who were admitted to the hospital and performed the surgery and were older than 15 years old. This study included 100 cases from 1/7/2019 to 30/6/2020. **Results:** Most of the patients in our study were males with 80%. Most patients (65%) were hospitalized for one day. Most of the patients had a right-side inguinal hernia 40%. Lumbar anesthesia was used in 73% of patients. **Conclusion:** A larger study including more clinics and hospitals and a bigger sample is required to further understand abdominal hernias.

Keywords Hernia; Abdominal; Anesthesia; Clinics; Hospitalization

Introduction

Inguinal hernia repair is an extremely common operation performed by surgeons. More than 800,000 repairs performed annually. An inguinal hernia is an opening in the myofascial plain of the oblique and transversalis muscles that can allow for herniation of intraabdominal or extraperitoneal organs. These groin hernias can be divided into indirect, direct, and femoral based on location. Most patients present with a bulge or pain in the groin. Healthcare professionals recommend repairing all symptomatic hernias to avoid complications. An open or laparoscopic approach can be used with the goal of defect closure and a tension-free repair. A mesh is usually used for a tension-free repair. When the mesh is contraindicated, primary suture repair can be performed [1-5].

Inguinal hernias are considered to have both a congenital and acquired component. Most adult hernias are considered acquired. However, there is evidence to suggest genetics also play a role. Patients with a known family history of a hernia are at least 4 times more likely to have an inguinal hernia than patients with no known family history. Studies have also shown that certain diseases like chronic obstructive pulmonary disease (COPD), Ehlers-Danlos syndrome and Marfan syndrome contribute to increased incidence of an inguinal hernia. Also, it is believed that increased intra-abdominal pressure, as seen in obesity, chronic cough, heavy lifting, and straining due to constipation, also plays a role in the development of an inguinal hernia.

Inguinal hernia repair is a common surgery in the United States. It is estimated that about 800,000 inguinal hernias are performed annually. Inguinal hernias account for 75% of all abdominal wall hernias. The incidence of inguinal hernias has a bimodal distribution, with peaks around age 5 and after age 70. Two-thirds of these hernias are indirect, making an indirect hernia the most common groin hernia in both males and females. Males account for about 90% of all inguinal hernias and females about 10%. Femoral hernias account for only 3% of all inguinal hernias and are more commonly seen in women with females accounting for about 70% of all femoral hernias. An



inguinal hernia will affect nearly 25% of men and less than 2% of women over their lifetime. An indirect hernia occurs more often on the right. This is believed to be attributed to the slower closure of a patent process vaginalis on the right side compared to the left.

Inguinal hernias can present with an array of different symptoms. Most patients present with a bulge in the groin area, or pain in the groin. Some will describe the pain or bulge that gets worse with physical activity or coughing. Symptoms may include a burning or pinching sensation in the groin. These sensations can radiate into the scrotum or down the leg. It is important to perform a thorough physical and history to rule out other causes of groin pain. At times an inguinal hernia can present with severe pain or obstructive symptoms caused by incarceration or strangulation of the hernia sac contents [6-9].

A proper physical exam is essential in the diagnosis of an inguinal hernia. Physical examination is the best way to diagnose a hernia. The exam is best performed with the patient standing. Visual inspection of the inguinal area is conducted first to rule out obvious bulges or asymmetry in groin or scrotum. Next, the examiner palpates over the groin and scrotum to detect the presence of a hernia. The palpation of the inguinal canal is completed last. The examiner palpates through the scrotum and towards the external inguinal ring. The patient is then instructed to cough or perform a Valsalva maneuver. If a hernia is present, the examiner will be able to palpate a bulge that moves in and out as the patient increases intraabdominal pressure through coughing or Valsalva. Examination of the contralateral side is essential as this allows the clinician to compare right versus left for symmetry and/or abnormalities. It is not essential to differentiate an indirect from a direct hernia on the exam as surgical repair is the same for both. A femoral hernia should be palpable below the inguinal ligament and just lateral to the pubic tubercle. Femoral hernias can easily be missed in an obese patient. In cases when there is high suspicion but no hernia can be detected on physical exam, a radiologic investigation may be warranted to elicit the diagnosis.

Most inguinal hernias are diagnosed with a thorough history and physical examination. When history strongly suggests a hernia, but none can be elicited on an exam or in situations where body habitus makes physical examination limited, then radiologic investigation may be warranted. Radiologic modalities include ultrasonography (US), computed tomography (CT), and magnetic resonance imaging (MRI). An ultrasound is the least invasive modality, but it is largely dependent on the skill of the examiner. The examination should be conducted with a Valsalva maneuver to increase intra-abdominal pressure. An ultrasound can detect an inguinal hernia with a sensitivity of 86% and a specificity of 77%. CT imaging is beneficial when the diagnosis is obscure. CT scan can better delineate groin anatomy and help to detect other etiologies of groin mass or in cases of complicated hernias. CT scan can detect inguinal hernias with a sensitivity of 80% and specificity of 65%. MRI has a sensitivity of 95% and specificity of 96% in detection of an inguinal hernia. However, MRI is costly and rarely used for diagnosis of an inguinal hernia due to its limited access. When indicated, MRI can be used to assist in the differentiation of sports-related injuries versus inguinal hernias.

The differential diagnoses for a groin bulge include a hernia, lymphadenopathy, lymphoma, metastatic neoplasm, hydrocele, epididymitis, testicular torsion, abscess, hematoma, femoral artery aneurysm, and/or an undescended testicle.

Materials and Methods

This study was a retrospective study of the files of 100 patients who reviewed clinics and had an abdominal hernia procedure. We collected data regarding the age, gender, type of hernia, number of days of hospitalization, type of anesthesia used and the use of antibiotics. We only included the patients who were admitted to the hospital and performed the surgery and were older than 15 years old.

This study included all cases from 1/7/2019 to 30/6/2020. To ensure the privacy, only the authors collected all the data and all the names and personal information were blinded. Statistical analysis was done using SPSS 25.0.



Results

Most of the patients in our study were males with 80 patients. (Figure 1)

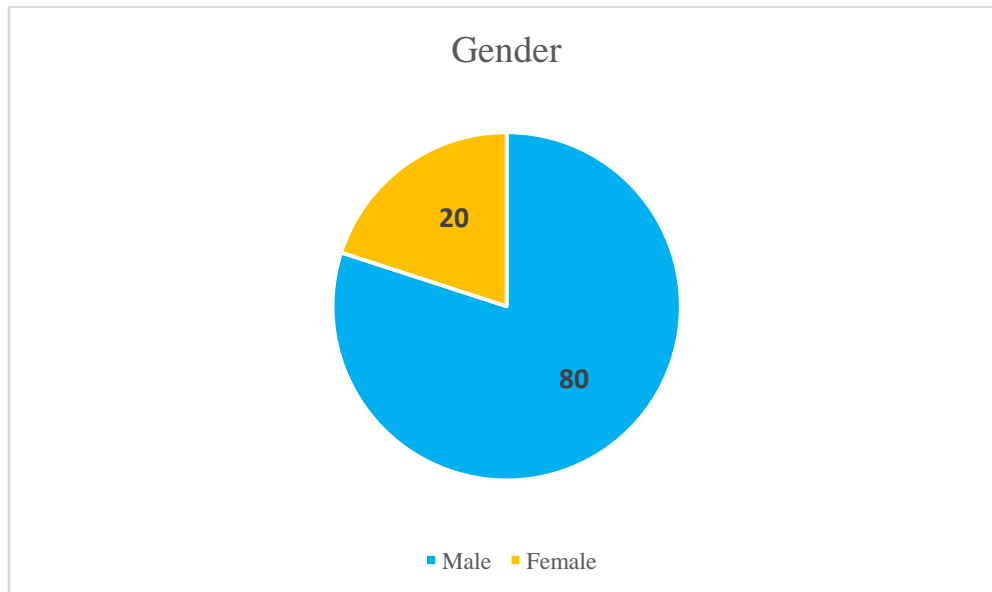


Figure 1: Gender of Participants

In this research, we found that most of the patients (65%) were hospitalized for one day after surgery. (Figure 2)

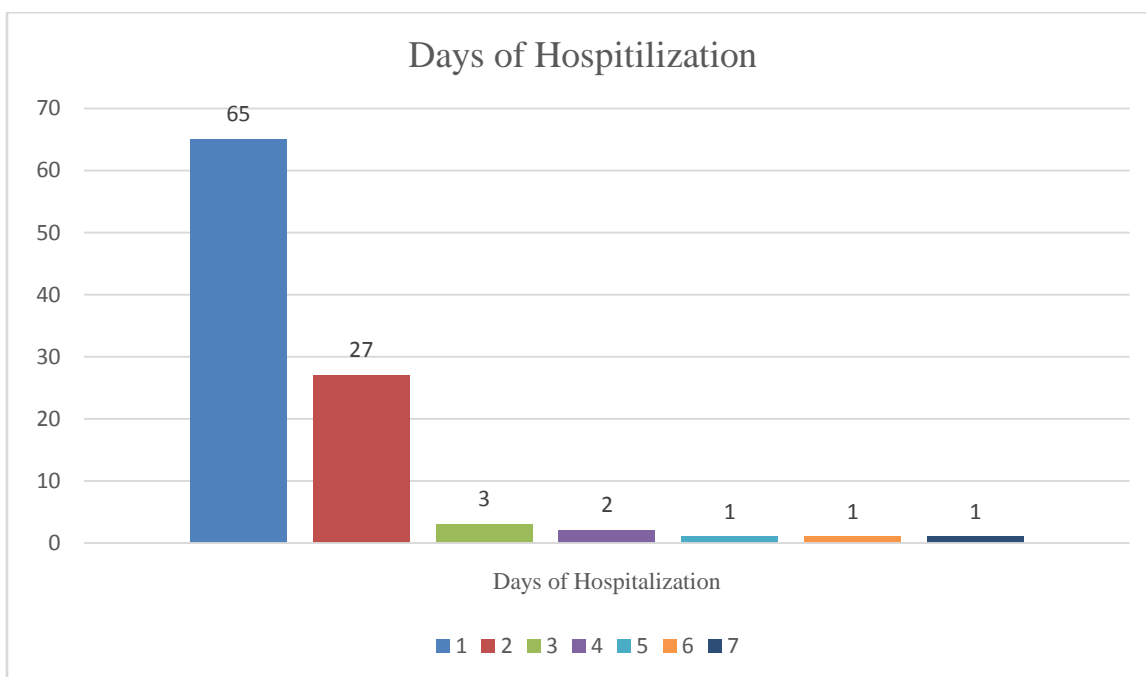


Figure 2: Days of Hospitalization of Participants

Our studies also showed that most of the patients had a right-side inguinal hernia (40%) and 20% OF patients had a left-side inguinal hernia. (Figure 3)

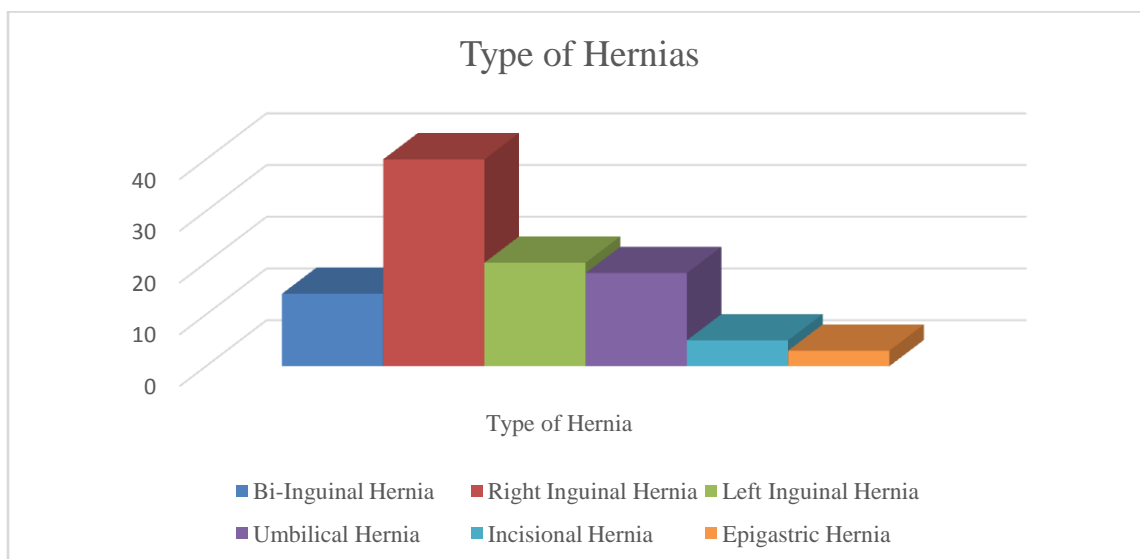


Figure 3: Type of Hernias of Participants

Lumber Anesthesia was used in 73% of patients compared to general in 27%. Figure (4)

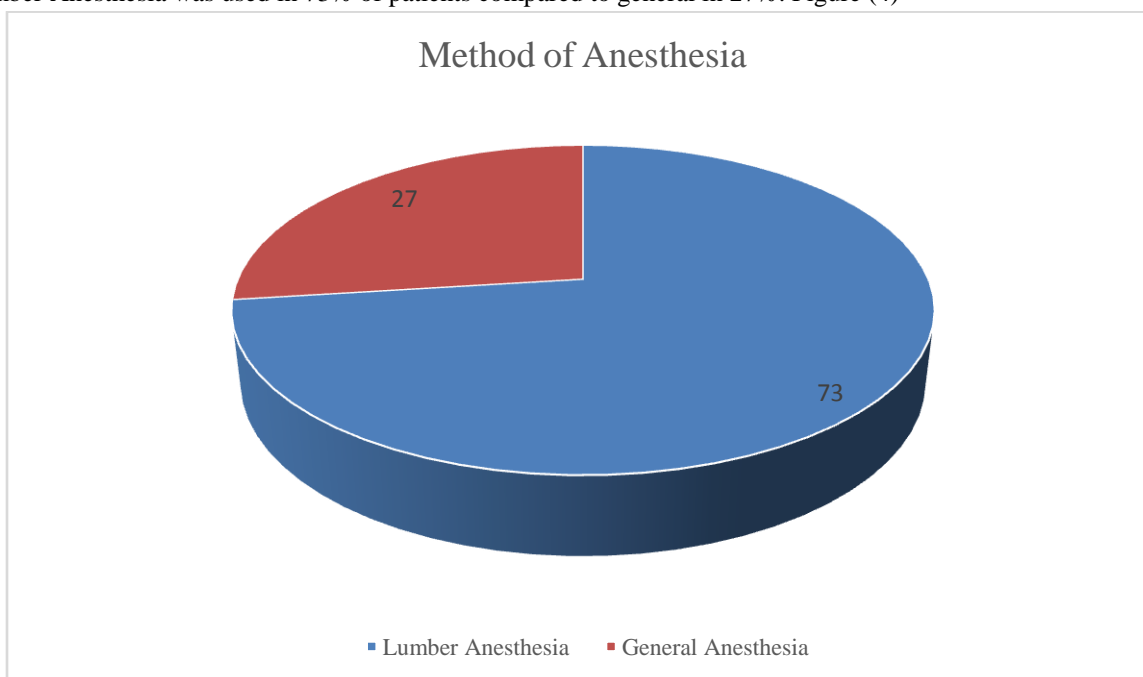


Figure 4: Method of Anesthesia of Participants

Discussion

Most of the patients in our study were males with 80 cases, while females were 20 cases. According to the days of hospitalization, most patients (65 patients) were hospitalized for one day, 27 patients were hospitalized for two days, three patients were hospitalized for three days, one patient (1.4%) was hospitalized for four days, two patients were hospitalized for five days, one patient was hospitalized for seven days and one patient was hospitalized for eight days. Most of the patients had a right sided inguinal hernia (40 patients), 20 patients had a left side inguinal hernia, 18 patients had umbilical hernia, 14 patients had bi-inguinal hernia, five patients had incisional hernia and three



patients had epigastric hernia. General Anesthesia was only used in 27 patients, compared to Lumber Anesthesia in 73 patients.

Conclusion

Hernias are a common and important diagnosis. The early detection of it is important to avoid complications and shorten hospitalization days required. This study and future larger study are needed and required to further understand abdominal hernias.

Compliance with Ethical Standards

Funding: This study was not funded by any institution.

Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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