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Case Report

Undiagnosed simultaneous umbilical and femoral hernias complicated by ascites: a case study of a 13-year-old girl at the Iringa Regional Referral Hospital in Iringa, Tanzania

Rosemary Theophilo Mdota[1]*, Alfred Laison Mwakalebela[2]

[1]Department of Surgery, Iringa Regional Referral Hospital Iringa, Tanzania
[2]Department of Obstetrics and Gynaecology, Iringa Regional Referral Hospital, Tanzania

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***Correspondence:**
Dr. Rosemary Theophilo Mdota,
E-mail: mdotarosemary@gmail.com

ABSTRACT

Concurrent umbilical and femoral hernias are unusual instances defined by an intra-abdominal bulge caused by abnormalities in the abdominal wall at the umbilical ring and the femoral canal in the upper thigh/groin area. Untreated femoral hernias provide a danger of strangulation, imprisonment, and intestinal blockage. This disorder is more frequent in females and affects youngsters more than adults. Concurrent umbilical and femoral hernias accompanied by ascites are extremely rare and can be corrected surgically. A 13-year-old girl from Mawelewele, Iringa, was presented with abdominal swelling and back discomfort. She had a history of chronic abdominal TB with recurrent ascites for four years. The patient had roughly one liter of yellowish discharge with a bad odor, which was accompanied by increased abdominal distention but no vomiting or diarrhea. She reported acute back discomfort with no aggravating or alleviating causes. The discomfort was linked with lower limb pain, fatigue, and limited mobility. There was no history of trauma. The patient had a four-year history of recurring abdominal distension, for which she had visited Benjamin Mkapa Hospital several times. And was diagnosed with abdominal TB, requiring numerous ascitic taps. And was receiving ant tuberculosis medication, albeit the regimen and adherence were not properly documented. She lost weight gradually, had low-grade fever on and off, and coughed intermittently throughout her illness. There was no prior history of bowel abnormalities, urinary complaints, hematemesis, or melena. The findings of an abdominal ultrasound indicated that a patient had significant ascites at Morrison's pouch, and an MRI revealed that a patient had huge ascites secondary? Correlate clinically. The patient had no hepatitis B or C, and the chest X-ray showed normal results. The decision was made to operate on the patients and remove their fluids while repairing the umbilical and femoral hernias. Under general anesthesia in the supine position, the patient was aseptically cleansed and draped before the incision was performed. Loculated ascitic fluid, a loop of viable small bowel in the hernia sac. Approximately 3000 ml of loculated ascitic fluid were extracted. Reduction of viable small bowel, excision of superfluous sac, and sublay mesh hernioplasty were performed, and the patient was alleviated of his previous complaints and symptoms. He was discharged after five days with a four-week follow-up. The patient totally healed and returned to school, which she had missed for nine months. Umbilical and femoral hernias complicated by ascites in the setting of chronic abdominal tuberculosis should be managed surgically, which was successfully done with sublay mesh hernioplasty, and the girl was rescued after four years of suffering due to misdiagnosis of the simultaneously umbilical and femoral hernia complicated by ascites as abdominal tuberculosis. Following that, the nutritional status improved.

Keywords: Concurrent umbilical, Femoral, Hernia, Ascites

INTRODUCTION

Children and adults seldom get umbilical and femoral hernias. Common symptoms include leakage, strangling, blockage, and irreducibility.[1] Hernias can be congenital in neonates due to the umbilical ring failing to close fully after delivery and insufficient development of abdominal wall muscles, or they can be caused by preterm and low birth weight. In certain circumstances, the hernia can close spontaneously, which is more common in male children, but the majority of female children require surgery.[2]

In neonates and infants, conservative and non-invasive management for the umbilical hernia as it resolves as the child grows.[3] Adults most commonly develop umbilical hernias as a result of persistent coughing, pregnancy, obesity, ascites, heavy lifting, chronic constipation, age and muscular weakening, and past abdominal surgery. Umbilical hernia risk factors include female sex, multiparty, malnutrition, and connective tissue abnormalities. In most situations, establishing a preoperative diagnosis in settings is challenging, although certain differential diagnoses result in a beneficial outcome.[4] In certain rare circumstances, numerous contemporaneous hernias in a single patient have been detected, and surgical surgery is the appropriate approach for such cases.[5]

Umbilical hernia worsened by ascites is an uncommon occurrence, and ascites only manifested under certain situations in particular people. Most of the time, an umbilical hernia exacerbated by ascites seen in individuals with liver cirrhosis, alcoholic cirrhosis, and hepatitis C decompensating, as well as fluid draining from the abdominal wall, can allow for spontaneous repair.[6] Obese people should get routine palpation and CT scans since it is not a bulge and is more frequent in women.[7]

Other studies discovered that characteristics such as big defects, initial closure without mesh, high BMI in 5/10 smokers, diabetes mellitus, surgical site infection (SSI), and concurrent hernias all influenced the recurrence of mesh-repaired umbilical hernias.[8] Umbilical and femoral hernias can be treated primarily using the open suture technique (keel technique) or the open mesh repair technique (Onlay method). Depending on the circumstances surrounding the umbilical hernia, both techniques are successful.[9]

The current case study of a 13-year-old girl with complicated umbilical and femoral hernias with ascites, which was congenitally undiagnosed and later misdiagnosed as abdominal tuberculosis, contributing to the patient's malnutrition, was corrected by removing the ascites fluids using a mesh repair technique. Nature of activities: intestinal blockage or constipation can contribute to the progression and development of an inguinal or umbilical hernia at a later age, with most cases resulting in difficulties due to delayed detection and treatment.[10]

CASE REPORT

A 13-year-old female from Mawelewele, Iringa, was admitted to Iringa Regional Referral Hospital, which is in the southern highlands in Tanzania, on 14/01/2026 with a chief complaint of abdominal swelling and back pain for one day, on a background of chronic abdominal tuberculosis with recurrent ascites for four years.

Figure 1 (A and B): Photos of the patient prior to surgery.

On history taking, the patient stated she was in good health until one day before admission, when she experienced abrupt discharge from an abdominal swelling. The discharge was yellow, foul-smelling, and around one liter in volume. This was linked to growing abdominal distention. She did not vomit or get diarrhea. Also complained of sudden, acute back pain that was accompanied by lowers limb pain, easy fatigue, and limited movement. There was no history of trauma.

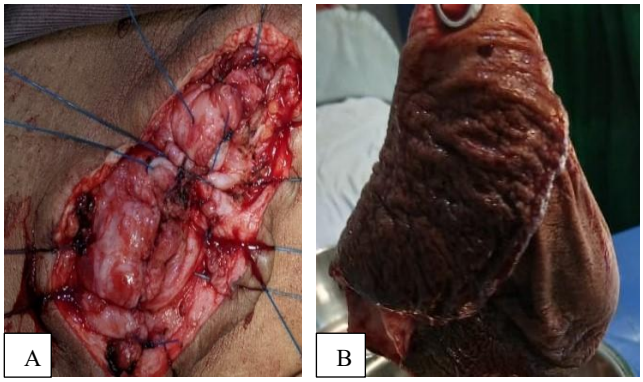

Figure 2 (A and B): Photo during surgery.

A patient has a four-year history of recurrent abdominal distension and has visited Benjamin Mkapa Hospital on several occasions. She was diagnosed with abdominal TB and had multiple ascitic taps. She received anti-tuberculosis medication, but the regimen and adherence were not adequately documented. Throughout her illness, she endured gradual weight loss, periodic low-grade fever, and an occasional cough. There was no history of

bowel movement alterations, urinary complaints, hematemesis, or melena.

Figure 3: Photo after the successful surgery.

Past medical history had abdominal tuberculosis for 4 years, which was treated with anti-tuberculosis medications for nine months. Recurrent ascites necessitating numerous paracenteses, no known drug allergies. And past surgical history: no previous significant surgeries. And family history: last born of three children, no known family history of TB or cancer. The social history: living with relatives, no history of alcohol or smoking. Chronic illnesses can lead to poor nutritional status.

Review of systems included General symptoms which included weariness and intermittent coughing; respiratory: without chest pain, trouble breathing, or palpitations. Gastrointestinal symptoms include abdominal distension and drainage from an ulcerated umbilicus. Musculoskeletal symptoms include back and lower limb pain. No neurological symptoms such as seizures or the loss of consciousness. Physical examination, General assessment, alert, cognizant, GCS 15/15, cachectic, afebrile, pale, no jaundice, and no pedal edema.

Vital signs include 36.5°C temperature, 80 bpm pulse, 94% SpO_2 on room air, and 110/78 mm Hg blood pressure (BP). Abdominal Examination: Gross abdominal distension, large anterior abdominal swelling (20×30 cm), ulcerated at the tip with yellowish foul-smelling discharge, firm, tender, non-pulsatile, warm surrounding skin, and palpable umbilical defect (24 cm). Examine the groin for a large swelling measuring 30×25 cm, ulcerated and discharged, firm, painful, and non-pulsatile.

Provisional diagnosis included abdominal tuberculosis, enormous ascites, and large umbilical and femoral hernias. And differential diagnoses were abdominal wall abscess with infection, soft tissue tumor, tuberculosis in the abdominal wall sinus, and incisional hernia (less common). Investigations on admission is WBC: 6.24×10^9/l, Neutrophils: 4.79×10^9/l, Hemoglobin: 6.5 g/dl, Sodium: 134 mmol/l, Potassium: 4.1 mmol/l, BUN: 1.6 mmol/l, Creatinine: 34.7 µmol/l, Albumin: 30 g/l.

Pre-operative abdominal ultrasonography reveals substantial ascites at Morrison's pouch. An MRI of the abdomen and pelvis (1.5 Tesla) revealed fluid that is clear accumulation spreading to the pelvic, inguinal, and umbilical out pouching through a left inguinal defect and anterior wall defect. Other organs were normal. Impression: Massive ascites that correlate clinically. Chest X-ray (AP) shows Normal full blood picture: Hemoglobin improved to 8.5 g/dl, WBC 5.43×10^9/l, renal function and electrolytes are normal, and hepatitis B and C are normal. GeneXpert results for peritoneal fluid negative.

Management

Preoperative management: IV Ceftriaxone 1 g, IV Metronidazole 500 mg tds, IV Paracetamol 500 mg 6-hourly, IV fluids, and optimization of anemia.

Intra-operative: The patient was administered general anesthesia, was supine, and was aseptically prepared. Found ascitic fluid and a viable tiny bowel loop in the hernia sac. The procedure involves draining roughly 3000 ml of ascitic fluid, reducing viable small bowel, removing superfluous sac, and performing sublay mesh hernioplasty.

Post-operative orders: Included intravenous paracetamol, metronidazole, and ceftriaxone, along with intramuscular pethidine for analgesia.

DISCUSSION

The concurrent of umbilical and femoral hernia in a thirteen years old girl complicated with ascites and severe malnutrition and misdiagnosed as abdominal tuberculosis is a rare case which were congenital hernia as the fact that was undiagnosed previously, and has increased patients' costs of treatment as the patient was on anti-TB while the situation was worsen and finally had surgery and she was rescued and her health was restored while on medication and nutrition. Unlike a study on intraperitoneal drainage, patients with ascites had a better outcome after umbilical hernia repairs, with ascites leakage, surgical site infections, and length of hospital stays all having a statistical significance in increased postoperative complications, indicating a lack of routine intraperitoneal drainage.[11] In the current case study the patient recovered without any complications.

During surgery, about 3 liters of ascites fluids were drained from the patient's groin. The swelling measured 30×25 cm, was ulcerated and released, hard, painful, and non-pulsatile. Previous research indicated that the hernia opening was 2×2 cm in size, with a compensatory mesh of 12×12 cm used to conceal hernia flaws.[12] Following the MRI examination, characteristics suggestive of

extensive ascites were found clinically, with evident accumulation extending to the pelvic, inguinal, and umbilical out pouching through a left inguinal hole and an anterior wall defect.

The renal function and hepatitis B and C were both normal. In the other case study of a 62-year-old male, CT imaging revealed an umbilical hernia with an incarcerated piece of the small intestine, which was repaired by surgery, and the patient recovered.[13]

Having umbilical and femoral hernias at the same time is a rare occurrence, and in the current case study, a 13-year-old girl appears to have a congenital hernia that developed over time as she grew and engaged in physical activities while attending school, and the condition worsened over time. Prior research discovered a 62-year-old man with simultaneous inguinal and umbilical hernias, which might have been caused by vigorous physical activities he had participated in throughout his life.[14]

Mesh surgery was used to treat umbilical and femoral hernias, alerting surgeons and physicians to consider surgery for patients who present with umbilical and femoral hernias complicated by abdominal distension and ascites with a yellowish fluid, as all of the above complications may lead to inadequate fluid intakes, resulting in severe malnutrition and a lower quality of life. This case study is similar to that of a 68-year-old female who was identified with several bilateral groin hernias in the same patient. The Preperitoneal endoscopic technique is indicated for verifying the diagnosis and treating occult groin hernias.[15]

CONCLUSION

The patient had significant concurrent umbilical and femoral hernias, which were exacerbated by massive ascites in the presence of chronic abdominal tuberculosis. She was successfully treated surgically with draining and sublay mesh hernioplasty. This case highlights the difficulty of treating hernias in people with persistent infectious abdominal disease and recurrent ascites.

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