Indirect inguinal hernia masquerading as a Spigelian hernia

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Abstract Inguinal hernia usually developed and descended into scrotum. The clinical presentation is inguinal oringuino-scrotal swelling. Abdominal wall weakness as it is frequently seen in African tropical zones produces often rare clinical case. We report a case of inguinal hernia presented as an abdominal wall swelling clinically suggestive of a Spigelian hernia and discuss the mechanism.

Keywords Inguinal hernia · Spigel hernia · Abdominal wall · Prothesis

Introduction

Adult hernia pathology viewed from African tropical zones features specific anatomy characteristics [1]. The absence of a balanced diet and hard chores create conducive conditions to the development of hernia caused by parietal weakness in most of the rural and manual worker populations. Furthermore, late medical consultation gives rise to hernia and original clinical pattern owing to the width of the ring, the size of the sac, the weight of the intra-sacculus viscera and the frequency of complications [1]. Inguinal hernia classically develops in the direction of the bursa to become inguinal, funicular or inguino-scrotal.

We report a case of a hernia located in the lateral inguinal fossa with ascending development towards the

iliac fossa and the flank and discuss the mechanism involved.

Observation

A 69-year-old man was admitted in May 2009 to the Ouakam Military Hospital in Sénégal for swelling in the right lower quadrant. He was an active farmer with a medical past of left side inguinal surgery 23 years ago and hypertension under treatment. Symptoms started about 10 years ago, marked by an intermittent swelling at the right lower quadrant. It was painless, reducible, bulging on coughs and increasing regularly in volume. Subsequently, it became permanent with the presence of peristaltic undulations. He did not report any signs of urinary or digestive disorder.

At admission, the medical examination showed a painless, gurgling and partially reducible tumor of 15 cm on the long axis in the right lower quadrant (Fig. 1).

The diagnosis was evidently a Spiegel hernia, except that the collar of the hernia was located very low in the inguinal area.

The abdomen was resilient, painless and did not contain any palpable mass. The testes looked normal in the scrotum and the prostate had a normal size and tenderness. The abdominopelvic ultrasonography revealed a hernia through a parietal defect located in the right lower quadrant and containing digestive loops. No organomegaly were detected in the abdominal cavity and the prostate had a normal sonographic structure and volume. The indication of a surgical treatment was opted out and performed through the oblique pararectal approach stretched to the right side of the inguinal region. Exploration highlighted a subcutaneous hernia bag in the right iliac fossa. The collar was

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Fig. 1 Right abdominal wall swelling clinically reducible

about 5 cm wide and located outside the epigastric vessels and inside the right seminal region (Fig. 2). It contained small intestinal loops with some adherence to the bag. The middle inguinal fossa was the location of a direct hernia that contained the vesicular horn. A reintegration of the small loops, followed by a resection and reclosing of the bag was performed. Treatment was achieved through fitting a polypropylene prosthesis attached on the inguinal arch and the inguinal falx according to the Lichtenstein procedure (Fig. 3).

Drainage through suction followed by elastic contention was performed. Post-operative care was simple and the patient was discharged from the hospital 4 days after the surgical operation. He was re-examined 6 months later and the clinical examination was unremarkable.

Fig. 2 Right inguinal hernia through a large inguinal defect. *a* Indirect hernia with bowel content, *b* spermatic cord, *c* direct hernia

Fig. 3 Hernia repair by Lichtenstein hernioplasty

Discussion

Hernia of the anterolateral abdominal wall develop through architecturally and structurally weak zones which include the inguinal canal, umbilicus, linea alba or laterally on the Spiegel linea. The clinical manifestations are often typical and enable easy diagnosis in most cases.

Inguinal hernia, the most frequent, develop in a canal, enlarged or not, and generally grow towards the bursa to become inguinal, funicular and, subsequently, become inguino-scrotal.

Spiegel hernia, or lateral ventral hernia, develop through a tight aponeurotic band called the “Spiegel’s semi-lunar” line laterally limited by the transverse muscles outside and by the musculus rectus abdominis inside [2]. The hernia collar can be located in all areas of the semi-lunar line, the preferred location being at the level of the Douglas line (mid-third of the spino-umbilical line). It remains always separated from the inguinal canal by the transverse muscles and the inferior oblique muscle. However, the collapse of the inguinal wall, as frequently observed in African tropical zones, produces uncommon clinical presentations.

In the reported case, the clinical presentation suggests a priori a lateral ventral hernia or Spiegel’s hernia. But the seminal line and the hernia sac were located in the same lateral inguinal fossa. We observed an extreme widening of the lateral and medial inguinal fossa. A similar clinical feature has been described by Mohta and Gupta [3] in patients aged 8 years. They described an inguinal sac which reaches the superficial inguinal ring and then ascends in a subcutaneous plane toward the iliac fossa instead of passing into the testicular bag [3].

The exact mechanism of such a clinical presentation cannot be stated. In the reported case, collapse of the posterior wall of the inguinal canal has given rise to a large gaping annulus, exposing the passage to an important

intestinal mass. The anatomic and dynamic factors seem to be determinant in the genesis of the collapse of the inguinal wall.

In regard to anatomy, the architectural weakness of the inguinal canal can be accentuated by variations of the low attachment of the internal oblique muscle in the weak inguinal zones which have non-striped muscular fibres [4]. In addition, there are, in 48% of the cases, defects in the internal oblique muscle, occupied by fatty tissue. The presence of the defects associated with upper insertion of the muscle in 36.8% of the cases seriously questions the efficacy of the muscular bound [4].

Here, the mechanical cause prevails over multi-factorial causes of hernia. As a fact, hard labour that rural populations and manual workers undergo mix with the age and the weight of the internal saccular viscera to favour weakening of the inguinal canal's posterior wall and its widening. In Sanders' series, 66% of patients had voluminous hernia of H3 or H4 type (according to the clinical classification of the defined by Kingsnorth et al. [5]).

Conclusion

Hernias of the abdominal wall are frequently seen among African populations because of some important risk

factors. This reported case had an uncommon clinical presentation that suggested a priori a lateral ventral hernia, or Spiegel's hernia. However, the final diagnosis was a rare case of weakness of the posterior wall of the inguinal canal that creates a space for a large parietal defect.

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