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AMYAND'S HERNIA DURING LAPAROSCOPIC HERNIOPLASTY. CASE REPORT

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HERNIA DE AMYAND DURANTE UNA HERNIOPLASTIA LAPAROSCÓPICA. REPORTE DE CASO

ABSTRACT

Introduction: Amyand's hernia refers to a rare occurrence in which the vermiform appendix, either inflamed or normal, happens to be found in an inguinal hernia sac. Due to its rarity and unspecific clinical evidence, it is most commonly presented as an intra-operative finding. A laparoscopic approach becomes both a way to confirm the diagnosis and a therapeutic tool. **Case report:** We hereby report a case of a 62-year-old patient presenting with an asymptomatic bilateral inguinal hernia, previously treated on his right side in 2011 with an open approach. The elective laparoscopic surgery, during the right groin exploration, revealed a vermiform appendix, with no signs of inflammation, within the hernia sac. . A prosthetic laparoscopic hernioplasty without appendicectomy was performed and both early outpatient follow-up and 30-day outcome demonstrated excellent recovery. **Conclusions**: Appendicectomy, when necessary, and primary hernia repair at the same time can be safely performed by laparoscopy which may be considered an advantageous management giving its role in diagnosing, in confirming an Amyand's hernia, in exploring the abdominal cavity and in being a therapeutic tool at the same time.

Key words: Amyand's hernia, Appendix, Laparoscopy, Hernioplasty, Recurrence, Case report..

RESUMEN

Introducción: La hernia de Amyand se refiere a una ocurrencia rara en la que el apéndice vermiforme, ya sea inflamado o normal, se encuentra dentro de un saco inguinal herniario. Debido a su rareza y evidencia clínica inespecífica, se presenta más comúnmente como un hallazgo intraoperatorio. Un abordaje laparoscópico se convierte tanto en una forma de confirmar el diagnóstico como en una herramienta terapéutica. **Caso clínico:** Presentamos un caso de un paciente de 62 años que presenta una hernia inguinal bilateral asintomática, previamente tratada en su lado derecho en 2011 con un abordaje convencional abierto. La cirugía laparoscópica electiva, durante la exploración de la ingle derecha, reveló un apéndice vermiforme, sin signos de inflamación, dentro del saco de la hernia. Se realizó una hernioplastia laparoscópica protésica sin apendicectomía y tanto el seguimiento ambulatorio temprano como el resultado a 30 días demostraron una excelente recuperación. **Conclusión**: La apendicectomía, cuando es necesario, y la reparación de la hernia primaria al mismo tiempo se pueden realizar de forma segura por laparoscopia que puede considerarse una gestión ventajosa dando su papel en el diagnóstico, en la confirmación de una hernia de Amyand, explorando la cavidad abdominal y siendo una herramienta terapéutica al mismo tiempo.

Palabras clave: Hernia de Amyand, Apéndice, Laparoscopia, Hernioplastia, Recurrencia, Caso clínico.

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INTRODUCTION

Amyand's hernia was first described by Claudius Amyand, who performed in 1735 the first recorded successful appendicectomy on an 11-year-old boy presenting with an acute inflamed appendix trapped in the inguinal hernia (1-2).

Laparoscopic inguinal hernia repair allows both detection of type and nature of the hernia of the involved side, as well as an inspection, and repair of the opposite site within the same setting. Usually, when appendix is normal, hernioplasty is performed for inguinal hernia and the appendicectomy is not advised (3-5).

When not inflamed, appendicectomy isn't necessarily required. The incidence of having a normal appendix within an inguinal or femoral hernia is about 1%, while the finding of a concurrent appendicitis associated to incarceration or strangulation is 0.13%; a recurrent case is extremely rare. Amyand's hernia affects patients of all ages, with mild male predilection, while in women it usually occurs during menopause, associated to femoral hernia (6-7)

CASE REPORT

Patient profile

A 62-year-old male, with no history of chronic diseases or any associated comorbidities, presented with a bulge on both sides of his lower quadrants, more evident on his left side, reducible. Patient wasn't feeling any pain or related symptoms at the time, but referred of a previous discomfort in the past few months. On his right side, patient had a scar of the previous open hernioplasty performed in 2011.

Diagnostic studies

Laboratory parameters were within normal limit.

Treatment performed

On laparoscopy, vermiform appendix was seen entering the inguinal canal through the deep ring with adhesions all around, together with a direct inguinal hernia (Figure 1)-. An indirect inguinal hernia was found on his left side. Adhesions were released and appendix appeared to be grossly normal. Reduction of the appendix, along with both the hernial sacs and prosthetic bilateral laparoscopic hernioplasty, were performed. A 4K technology with three laparoscopic trocars, a 5 mm optic and a Veress technique, improved visibility, enabling surgeons to guarantee a more precise and safe procedure. Cyanoacrylate surgical glue was successfully applied to fix the polypropylene mesh, followed by V-loc peritoneal closure (Figure 2). The surgery was performed by a well-experienced senior surgeon.

Follow up and outcomes

Post-operative course was unremarkable. Patient was dismissed within one day after surgery. Both early outpatient follow-up and 30-day outcome, demonstrated excellent recovery.

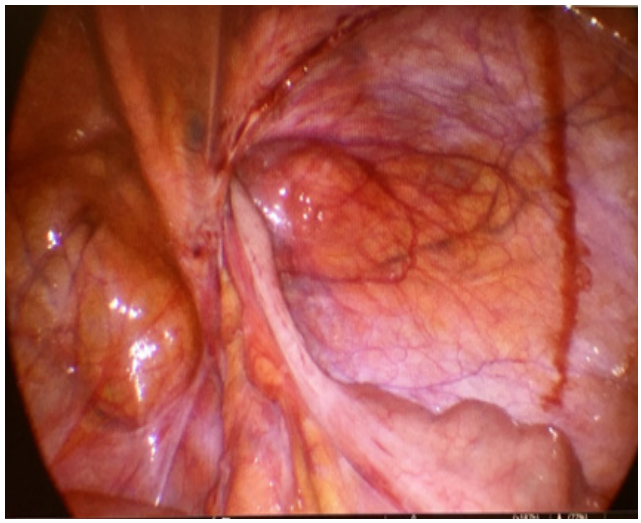

Figure 1. Deep inguinal ring with herniation of vermiform appendix

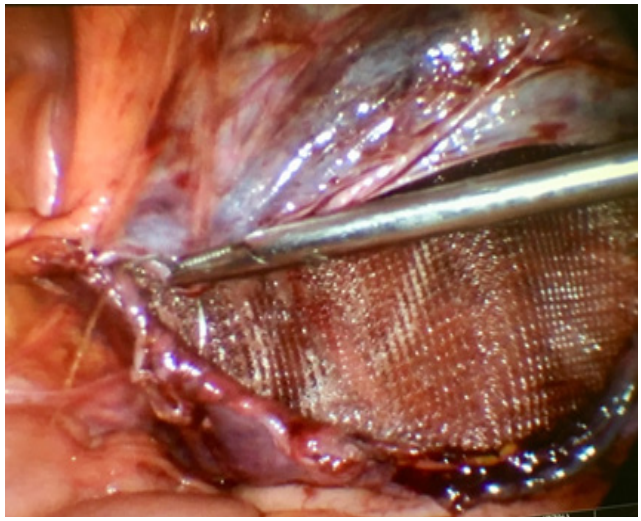

Figure 2. Mesh in pre-peritoneal space followed by V-loc peritoneal closure

DISCUSSION

The first to perform appendicectomy was Claudius Amyand in 1735, sergent surgeon to King George II of Britain (2). As a matter of fact, the term "Amyand" was later referred to the presence of appendix within inguinal hernia1. Hernia is intended as an abnormal protusion of viscus, or part of viscus, through a normal or abnormal opening from its containing cavity (8).

Amyand's hernia is three times more common in children than adults, due to the patency of the processus vaginalis (9). Pre-operative diagnosis is difficult. Acute appendicitis in hernia may be misdiagnosed. Physical examination is not able to detect hernia sac

content. In the evaluation of groins and scrotum, ultrasonography may not be enough (10). Although CT abdomen may be of help, it is not routine when diagnosis of appendicitis is sure (11). In our experience, the appendix was found grossly normal within the recurrent inguinal hernia sac of a patient, already treated with an open approach in 2011. Numerous adhesions were found and a cautious lysis was performed. Diagnosis of Amyand's hernia remains primarily an incidental finding during surgery.

Losanoff *et al*. classified the management of Amyand's hernia into the following four types, based on the condition of the appendix and treatment layout (1, 12).

Type I defines a normal appendix inside the hernia sac, which needs to be reduced with mesh hernioplasty, without appendicectomy.

Type II refers to an acute appendicitis localized in the hernial sac, which leads to appendicectomy through inguinal incision, without mesh hernia repair.

Type III defines an acute appendicitis complicated by peritonitis where appendicectomy is to be performed through laparotomy, hernia repair without mesh.

Type IV refers to an acute appendicitis with or without abdominal pathology, which requires a management as type I to III, along with treatment of the abdominal pathology.

We performed a prosthetic laparoscopic hernioplasty without appendicectomy. Rectification of inguinal hernia should remain the main condition to be treated; a future appendicitis, if it occurs, can be later addressed laparoscopically. In our experience a case of Amyand's hernia affected a 62-year-old man in good health who had undergone open hernioplasty several years before and now he presented with a recurrent condition along with a newly formed direct inguinal hernia.

Laparoscopic surgery approach can be seen as more advantageous giving its multi-purpose role in diagnosing a recurrent inguinal hernia after open surgery, in confirming Amyand's rare condition, as well as exploring the abdominal cavity for other pathologies or complicated hernia. Last, but not least, it is a therapeutic tool. A total laparoscopic management is feasible and safe, especially if the hernial sac can be reduced and closed. However, comparing laparoscopic approach to open approach, in terms of long-term results and complications, can be difficult, considering the rarity of this form of hernia(13).

Amyand's hernia is a rare condition and should be considered in the differential diagnosis of inguinal hernia, either recurrent or not.

Due to its rarity and unspecific clinical evidence, it is most commonly presented as an intra-operative finding.

Appendicectomy, when necessary, and primary hernia repair at the same time can be safely performed by laparoscopy.

Laparoscopic management may be considered advantageous giving its role in diagnosing, in confirming an Amyand's hernia, in exploring the abdominal cavity and in being a therapeutic tool at the same time.

Moreover, recent promising reports indicate the feasibility and superiority of the minimally invasive approach to the lysis of adhesions, which can often occur, especially in inflamed and/or recurrent conditions(14).

NOTES

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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No funding was received for the present study.

For this clinical case, no ethics commission has met.

Informed consent was obtained from the patient for the use of clinical data for scientific research.

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