

Chronic Abdominal Pain following the TAPP Hernioplasty, Caused by Appendix Attached to the Polypropylene Mesh

Rakic Mislav^{*}, Klicek Robert, Amic Fedor, Matej Andabak and Patrlj Leonardo

Department of Hepatobiliary Surgery, University Hospital Dubrava, Zagreb, Croatia

^{*}Corresponding author: Rakic Mislav, Department of Hepatobiliary Surgery, University Hospital Dubrava, Zagreb, Croatia, Tel: 0038598 891-925, E-mail: mislav78@gmail.com

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Abstract

We report a case of 42 y old male patient with chronic pain in the lower right abdominal quadrant that appeared almost every time after or during exercise, for a last two years. The patient underwent transabdominal preperitoneal patch hernioplasty (TAPP), due to the right inguinal hernia two and a half years ago. There were no comorbidities or other previous operations in his medical records. Since the abdominal ultrasound (US) and magnetic resonant (MR) with laboratory methods did not show any special findings, the laparoscopy was performed and the appendix was found with apex attached to the polypropylene mesh, preperitoneal positioned at the place of the previous hernioplasty. The appendix was divided carefully and the laparoscopic appendectomy was performed. There were no complications during the operation or postoperative period. The pathohistological exam showed chronic inflammatory mononuclear infiltration at the sampled appendix. During the follow-up period of two years, the patient experienced no abdominal pain nor any other symptoms and/or complications. In the current literature, we did not find this kind of complication following the TAPP procedure. This case is a unique presentation of chronic abdominal pain following the TAPP procedure caused with the position of the attached appendix.

Keywords: Transabdominal preperitoneal patch hernioplasty (TAPP); Chronic abdominal pain; Laparoscopic appendectomy

Introduction

Inguinal hernia repair is among the most common surgical procedures performed worldwide [1], with the estimated annual incidence of inguinal hernia repair being 130-160 operations per 100,000 inhabitants [2]. The laparoscopic inguinal hernia repair presents a promising therapeutic pathway nowadays especially in bilateral and recurrent hernias [3]. The same as any other surgical procedure it could be accompanied by several complications. They are usually grouped as the following: a) complications associated with laparoscopy; b) the ones related to the patient; c) those related to hernioplasty itself [4]. In the 17.1% of the hernioplasty operations are usually accompanied with minor complications such as transient groin pain, seroma, transient leg pain or testicular and spermatic cord problems and hematoma [5]. The impaired bowel passage was reported early after the operation that was managed conservatively, but also the adhesive ileus that required reoperation and the adhesiolysis six months following the operation [6,7]. According to literature, there are only a few cases in which the laparoscopic hernia repair was brought in the connection with the development of acute appendicitis [7]. On the other hand, some other reports present another interesting issue in the setting of an inguinal hernia and appendicitis, which is De Garrengot hernia where the appendix is included in hernia sac, the synchronous laparoscopic appendectomy and TAPP hernioplasty can be performed safely in these cases [8,9].

However, numerous studies with long-term follow-up have shown that the rate of chronic postoperative pain is high and that it is one of the major complications affecting patients that undergo laparoscopic hernia repairs [10,11].

However, there were no any reports and/or studies presenting the TAPP hernioplasty as a possible trigger for chronic abdominal pain caused by attachment of the appendix to the preperitoneal positioned prosthetic material.

Therefore we present an unusual case of a young male patient presented with chronic pain in the right lower abdominal quadrant, three years following the TAPP hernioplasty, where the appendix was found attached to the preperitoneal positioned polypropylene mesh.

Case Report

We report a case of 42 y old male patient with chronic pain in the lower right abdominal quadrant that lasted for more than two years, and it was related to exercise. This pain started to show after TAPP hernioplasty which patient underwent due to the right inguinal hernia 3 years ago. There were no other comorbidities in his medical records. Since the imaging (abdominal US and MR) and laboratory methods did not show any special findings, the laparoscopy was performed and the apex of the appendix was found attached to the polypropylene mesh which was positioned preperitoneal. So the appendix was long-drawn in the right down part of the abdominal cavity (Figure 1). Laparoscopic appendectomy was performed. There were no complications during the early or late postoperative period. The pathohistological exam has shown chronic inflammatory mononuclear infiltration at the sampled appendix. During the two years of follow up, no abdominal pain or any other complications were not reported by the patient.

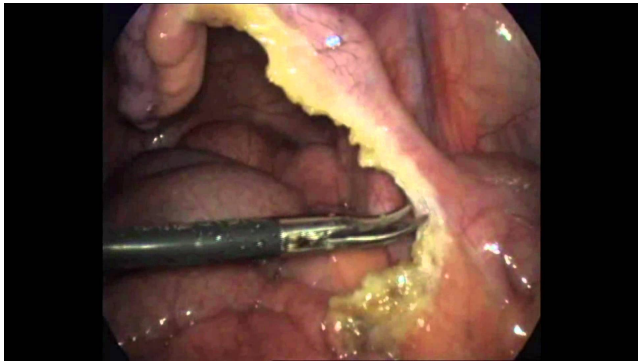


Figure 1: Long-drawn appendix in the right down part of the abdominal cavity.

Discussion

We believe that the lower position of coecum and the longer appendix could be the factors for communication between the region where the polypropylene mesh was placed during the laparoscopic hernioplasty. Also incompletely closing of the peritoneal flap during TAPP procedure enabled appendix to attach on polypropylene mesh and long-draw in the right down part of the abdominal cavity. Like this positioned appendix was stretched bridle which makes intermittent strangulation of the intestinal mesentery during exercising, and consequently intermittent chronic abdominal pain.

The adaptation of peritoneum across the mesh has become a tip to follow according to every day's good surgical practice due to a fact that polypropylene mesh as a foreign body might induce adherence of surrounding structures due to the inflammatory response. That could be a possible explanation for appendiceal attachment at the peritoneum covering the mesh could be an inflammatory reaction due to a foreign material. This inflammatory response may subsequently result in fibrinous adhesions to adjacent organs such as the greater omentum, small and large bowel, the appendix, and the fallopian tubes and ovaries in females which, has already been presented as a possible complication of hernioplasty [6,7]. We suggest that chronic inflammatory changes in the sampled appendix are secondary to the reaction to mesh as a foreign body and were not primarily developed in the appendix.

The possible sites for adhesions development could be the locations where peritoneum was opened such as trocars entering points. According to surgical practice, it is usually emphasized the necessity of

proper restitution of peritoneum as a prevention of adhesions formation.

This case opens a new point of view in the setting of chronic abdominal pain following TAPP procedure.

Informed Consent

Written informed consent was obtained from the patient for publication of this Case Report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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