

## Incisional Hernia after Mcburney Incision: A Case Report

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### Abstract

### Case Report

Postoperative incisional hernia is a common complication of abdominal surgery; however, its occurrence following a McBurney incision remains exceptional. Diagnosis is primarily clinical, while computed tomography, allows accurate assessment of the parietal defect size essential for the selection of the surgical technique, the hernia sac contents, abdominal wall quality, and the presence of associated complications. Prosthetic repair constitutes the gold standard treatment, with a low recurrence rate, and correction of predisposing factors is essential to optimize surgical outcomes.

**Keywords:** Postoperative incisional hernia, McBurney incision, appendectomy, parietal mesh (prosthetic mesh), risk factors.

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## INTRODUCTION

Incisional hernia is a postoperative complication defined as a musculo-aponeurotic defect occurring at the site of a previous surgical incision. Its etiology is mainly associated with obesity and parietal sepsis. It rarely occurs on a McBurney incision, complicating less than 0.12% of appendectomies. Prosthetic mesh repair represents the standard treatment for any incisional hernia.

## OBJECTIVE

We report a case of an incisional hernia on a McBurney incision in order to highlight the risk factors contributing to the development of this complication and the different surgical management options.

## CASE REPORT

A 45 year old female patient with a medical history of diabetes, treated with insulin for 5 years, and appendectomy through a McBurney incision performed 6 months earlier for uncomplicated acute appendicitis, complicated in the postoperative period by a surgical site infection.

She was admitted to our department for pain and a sensation of a mass in the right iliac fossa. Physical examination revealed a swelling in the right iliac fossa, which was mobile, painless, and reducible.

Laboratory tests : was normal.

Abdominal CT scan revealed an incisional hernia at the site of the appendectomy incision, with mixed content, protruding through a 33-mm defect, without signs of strangulation.

The patient underwent prosthetic mesh repair of the abdominal wall. The postoperative course was uneventful.

## DISCUSSION

Postoperative incisional hernia is a common complication in abdominal surgery, with a multifactorial origin. The main predisposing factors are:

- Advanced age, due to slowing of the healing process.
- Female predominance.
- Smoking.
- Mechanical factors, through the forces exerted by muscles on the incision:
  - Contexts of increased abdominal pressure: obesity, constipation, chronic bronchitis, ascites, prostatic adenoma, etc.
  - Multiparity, promoting weakening of the abdominal wall.
- Diabetes, by favoring local infections that predispose to hernia formation.
- Corticosteroids and chemotherapy, slowing the healing process.
- Poor closure technique of the primary incision.
- Early resumption of physical activity.
- Surgical site infection.

Incisional hernia is a progressive condition, gradually increasing in size, with variable consequences, especially in large hernias (“hernia disease”):

- Hernia–respiratory disease: due to disruption of the physiological balance between abdominal and thoracic pressures.
- Hernia–circulatory disease: due to decreased intra-abdominal pressure causing inferior vena cava stasis and splanchnic venous congestion, increasing postoperative thromboembolic risk.
- Hernia–trophic disease: alterations of abdominal wall and skin structures.

The diagnosis is most often clinical, with the appearance of a swelling at the operative scar, which is painless, reducible, and expansile with coughing, when the hernia is not complicated by strangulation.

Abdominal CT scan allows precise assessment of the defect size, content, sac extent, muscle retraction, and muscle quality. Management aims to surgically restore a closed abdominal wall and should start with preoperative preparation:

- Preoperative preparation:
  - In obese patients: weight loss is necessary.
  - Correction of associated conditions: diabetes, COPD, asthma, constipation, etc.

#### **Surgical techniques:**

- Repair with prosthetic reinforcement: the prosthesis can be placed in four sites: pre-aponeurotic (major infection risk), retromuscular prefascial (reference site), preperitoneal, and intraperitoneal (requiring a dual-surface mesh with an anti-adhesive visceral side).
- Parietorrhaphy, using simple or “vest-over-pants” sutures, with several techniques:
  - Two-layer suture: first layer involves peritoneum and posterior aponeurotic sheet, second layer the anterior aponeurotic sheet.

- Judd technique : overlapping suture (“vest-over-pants”), sliding one lip of the defect over the other.
- Welti–Eudel technique : autoplasty using the anterior aponeurotic sheet; a longitudinal anterior incision is made outside the linea alba, the inner edge of the incision is turned toward the linea alba, and the fascia, hernia edge, and peritoneum are sutured in a single layer.

#### **Complications of hernia repair may include:**

- Seromas: serous fluid accumulation in the subcutaneous dissection area.
- Intestinal obstruction : due to adhesions or incarceration of a loop in the fixation defect.
- Mesh infection : after concomitant procedures at the same site or in patients with high BMI.

## **CONCLUSION**

Incisional hernia on a McBurney incision remains a rare complication of appendectomy. Preoperative preparation is essential to simplify the procedure. Prosthetic repair remains the most effective in terms of recurrence prevention.

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