New Trends in Incisional Hernia Repair

An Essay

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By

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CHAPTER 2
OPEN METHODS OF INCISIONAL HERNIA REPAIR

Introduction

Ventral abdominal hernias represent a frequently encountered and often formidable clinical problem. Reported failure rates of primary suture repair range between 25% and 52% ***(Luijendijk et al., 2000).***

Given the increased morbidity and higher failures rates for patients with recurrent hernias, use of mesh reinforcement of the abdominal wall should be mandatory in the vast majority of patients today ***(Luijendijk et al.,*** 2000).

Several randomized, prospective trials have demonstrated a doubling in recurrence rates if mesh is not used ***(Burger et al., 2004).***

Traditional mesh placement strategies in an overlay or underlay fashion have often prevented adequate mesh-to-defect overlap ***(Klinge et al., 2005).***

Extra-peritoneal placement of a prosthetic between the rectus muscles and posterior rectus fascia, popularized by Rives, colleagues and Stoppa, allows for use of a large mesh with significant overlap ***(Rives and Stoppa, 1989).***

The Rives-Stoppa technique has become a popular approach for open ventral herniorrhaphy for many hernia surgeons, with recurrence rates of 1% to 14% ***(Le et al.,*** 2005).

Because the same factors that predispose patients to hernia development likely contribute to recurrences, herniorrhaphy failures often occur in patients with significant co-morbidities, such as obesity, diabetes and steroid use ***(Novitsky et al., 2006).***

As a result, recurrent ventral hernias frequently represent a formidable surgical problem. Because herniorrhaphy failure rates are proportional to the number of previous repairs, multiply recurrent hernias are an even greater challenge ***(Novitsky et al., 2006).***

Preoperative management:

When there is no indication for urgent surgical intervention, patients with incisional hernia need to have an adequate preoperative preparation in order to obtain a lasting repair ***(Benett and Kingnorth, 2004).***

(1) Weight control:

Obesity is one of the most important causes of ventral and incisional hernias. Thus obese patients must be urged to loose weight but few patients actually comply with this recommendation ***(Eubanks, 2001).***

(2) Associated medical conditions:

Associated cardiovascular, respiratory, renal conditions, diabetes, hypertension and other general illness must be diagnosed, assessed and treated. The operation is usually elective and must be delayed until the patient is in an optimal state ***(Holzman and Pappas, 2000).***

Smokers should be urged to stop smoking and aggressive pulmonary toilet should be instituted preoperatively with attempts to alleviate chronic cough, which will place unnecessary strain on the hernia repair ***(Holzman and Pappas, 2000).***

Respiratory exercises should begin few weeks before the operation so that the patient is in an optimal state for operation ***(Holzman and Pappas, 2000).***

A history of constipation and difficulties with urination can lead to straining and increased abdominal pressure, jeopardizing the success of repair. These conditions should be investigated and corrected, if possible, prior to elective herniorrhaphy ***(Holzman and Pappas, 2000).***

(3) Proper time selection:

In cases of incisional hernia, it is mentioned that the timing of repair should be delayed for at least 1 year of the operation that caused the hernia or after the previous attempt at repair ***(Abrahamson, 1997).***

This is the time it takes for collagen to mature and for the tissue to reach their final "dry" state ***(Abrahamson, 1997).***

Some authors stated that one should wait for at least 1 year after all infection and sinuses have healed. This is arbitrary period in view of the work of Davis and Houck, both of whom showed that bacteria may remain alive in old infected wounds, even many years after the wounds have apparently healed, and re-infect later repairs of incisional hernias where the original closure was infected ***(Holzman and Pappas, 2000).***

Some cases with chronic purulent discharge, especially if associated with retained foreign bodies such as fragments of metal sheets wire mesh or synthetic mesh may have to be staged ***(Holzman and Pappas, 2000).***

The wound is first cleared of the foreign bodies, infected sutures and sinuses, pockets are widely opened. The wound is left open to heal by granulation, later after 1 year; if possible, the actual repair may be done ***(Holzman and Pappas, 2000).***