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Inguinal Hernia: Follow or Repair?

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Keywords

• Inguinal hernia • Watchful waiting • Herniorrhaphy

Key points

- Inguinal herniorrhaphy is one of the most common surgeries performed in general surgery practice.
- Recent evidence suggests that routine repair of all inguinal hernias at diagnosis is not necessary.
- Patients with symptoms caused by their hernias benefit from operative therapy to eliminate pain.
- A strategy of watchful waiting for patients with minimally symptomatic hernias has been shown to be safe. However, patients should be counseled that the crossover rate to surgery approaches 75% by 10 years.

INTRODUCTION

Abdominal wall hernias have been a subject of interest since the beginning of surgical history, and the evolution of hernia repair parallels closely the advances in anatomic understanding and development of the techniques that made modern surgery possible [1]. Inguinal herniorrhaphies are now routinely performed with low morbidity and a recurrence rate that approaches 0% and are effective in preventing the life-threatening complications of bowel obstruction or strangulation (a *hernia accident* for the purposes of this article) [2]. These factors have led surgeons to recommend routine repair of inguinal hernias at

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diagnosis for most of the twentieth century. Recent results from 2 large randomized controlled trials (RCTs) challenged this concept by clearly showing that a watchful waiting (WW) approach to patients with minimally symptomatic inguinal hernias is safe [3,4]. Patients from these 2 randomized trials have now been followed for nearly a decade providing valuable insight into the natural history and progression of untreated inguinal hernias [5,6]. The purpose of this article is to review the available evidence that deals with observation versus routine repair for asymptomatic inguinal hernias.

INCIDENCE

Inguinal hernias are one of the most common afflictions in adults, especially men [2]; inguinal herniorrhaphy is one of the most common procedures performed by surgeons. More than 20 million inguinal herniorrhaphies are performed yearly around the world [5,7]. In the past, it has generally been taught that there is a higher risk of hernia accident with increased age and an increased mortality rate associated with emergency hernia surgeries [8–10]. However, modern studies are now providing evidence that the incidence of emergent inguinal hernia repair is low and seems to be decreasing, which is important when considering a strategy of WW. This finding was shown in a population-based study in Olmsted County from the Mayo Clinic in which the incidence of emergent hernia surgery over the last 2 decades decreased from 18.2 to 12.4 per 100,000 person-years in men and from 6.4 to 2.4 per 100,000 person-years in women [11]. This finding has been confirmed by the results of the long-term follow-up of the 2 RCTs referred to frequently in this article, which have provided information on natural history. Older studies in the literature that purport a higher incidence of hernia accident in the elderly and a higher mortality for emergency surgery can no longer be considered relevant [5].

CAUSE AND NATURAL HISTORY

The cause of an inguinal hernia is thought to be multifactorial. For those with a direct inguinal hernia, increased intra-abdominal pressure and relative weakness of the posterior inguinal wall are the 2 important causative factors. In those with indirect inguinal hernias, elevations in intra-abdominal pressure secondary to coughing and strenuous activity might make an asymptomatic patent processus vaginalis symptomatic [12]. The literature dealing with the role of strenuous activity and the development of inguinal hernias is contradictory, with some retrospective data showing a correlation with acute indirect inguinal hernias in patients who recalled strenuous activity before the identification of the hernia [12]. There is also an abundance of literature contradicting this [13]. Variations in the attachment of the iliopubic tract, increased intra-abdominal pressure, and size and shape of the femoral ring contribute to the development of femoral hernias. Familial predisposition, prostatism, connective tissue diseases, and disease processes that cause an increase in intra-abdominal pressure are thought to increase an individual's chance of developing an inguinal hernia [14]. Metabolic