

CHRONIC PAIN AFTER INGUINAL HERNIA REPAIR

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Abstract

Inguinal hernia repair is one of the most frequently intervention in general surgery. Recently the most used technique for treating inguinal hernias is a tension free repair with the use of synthetic mesh . One of the most important complication after Lichtenstein mesh inguinal repair remain postoperative chronic groin pain – inguinodynia.

Objective: to evaluate the incidence of chronic pain in patients undergoing inguinal hernioplasty using the Lichtenstein technique.

Methods: this study was conducted in the Clinical Hospital of Tetova during the period from January 2015 until January 2018 and includes the patients with chronic inguinal pain after hernioplasty. Totally 126 patients undergoing inguinal hernioplasty are subject of this study.

Results: from a total of 126 patients which were operated during January 2015/2018 and undergo inguinal hernia repair, persistence of chronic inguinal pain six-months after surgery was registered in 14 of them (11 %). Depending to the severity of the pain patients was divided into three group. Majority of them had mild pain, respectively 7 of them (50 %) , five of them (35.7 %) had moderate pain and two patients (14.3 %) had severe intensity pain.

Conclusion: the appearance of chronic pain after inguinal hernia repair may be considered the most important complication.

Keywords: chronic pain, hernioplasty, free tension.

INTRODUCTION

Pain is a unpleasant feeling often caused by intense damage of different tissue. The International Association for the Study of Pain (IASP) defines pain as unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Chronic pain is defined as pain that lasts for more than three months. Chronic pain can get worse progressively and reoccur intermittently, delaying the usual healing process. Inguinal hernia repair, is one of the most common surgical procedures in general surgery whereas pain after hernioplastyor inguinodiniais one of the most important complication after inguinal repair and is defined as pain that last more than three months after surgery. The incidence of this pain is more greater than previously reported. The etiology of inguinodiniais multifactorial and can have two components, the neuropathic and the other somatic. The neuropathic type is caused by damage to one or more inguinal nerves, whereas the somatic type is as the result of different inflammatory process at the inguinal region, therefore recognition of the right mechanisms responsible for the development of chronic postoperative pain after inguinal repair may be very complicated. Nerve injury may be as result of mechanical or thermal injury during surgical dissection, or nerve entrapment from sutures, mesh, and adhesions.

AIM OF THE STUDY

The aim of this study is to evaluate the incidence of chronic inguinal pain in patients submitted to inguinal hernioplasty with the open tissue repair and free tension repair (Lichtenstein technique).

MATERIAL AND METHODS

All the patients with inguinal hernia which are operated in a Clinical Hospital of Tetova during a period between January 2016 – 2018 with the signs of chronic inguinal pain at least six months after operations are subject of this study. Five months after surgery the patients who complaint for the presence of chronic inguinal pain are invited to a medical consultation and we analyze the pain characteristics and its impact on quality of life. At the same time we have analyzed the age and the gender of the patients, hernia type (indirect, direct, or recurrent) and the use or no of the prosthetic material for hernioplasty. Although chronic pain is defined as pain lasting more than 3 months, recently because of the use of synthetic mesh for hernia repair, an inflammatory response may occur and last a couple of months as a result of a reaction against the foreign material. This is the reason why we have prolonged the inclusion criteria equal or more than six months.

RESULTS

In this study are included 126 patients undergoing elective inguinal hernia repair in a Clinical Hospital of Tetovo during a period January 2016/2018 and follow up at end of six months. From totally 126 patients majority of them were male respectively 102 (83.6 %) of them and 24 females (19.4) with the main age 50.3 years.

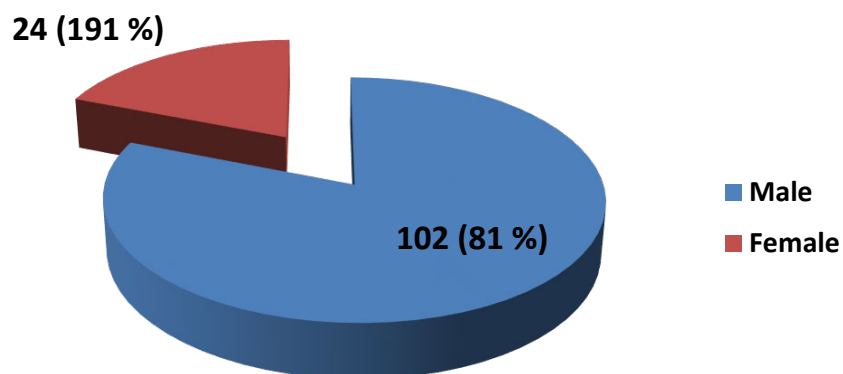


Figure 1. Female-male ratio

All the patients were questioned six months after undergoing hernia repair and 14 of them complain about the presence of chronic pain, while all of them were males.

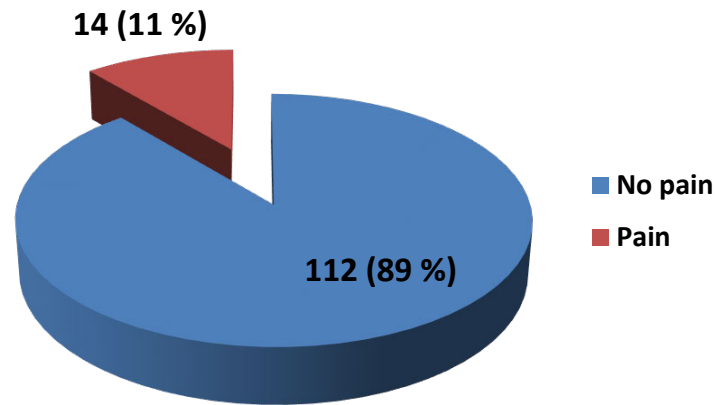


Figure 2. Pain/No pain ratio

Regarding to the side of the inguinal hernia in a group of patients with postoperative pain, in nine of them (64.3 %) hernia was located on the right side, in four (28.6 %) on the left side and in one patient (7.1 %) was bilateral.

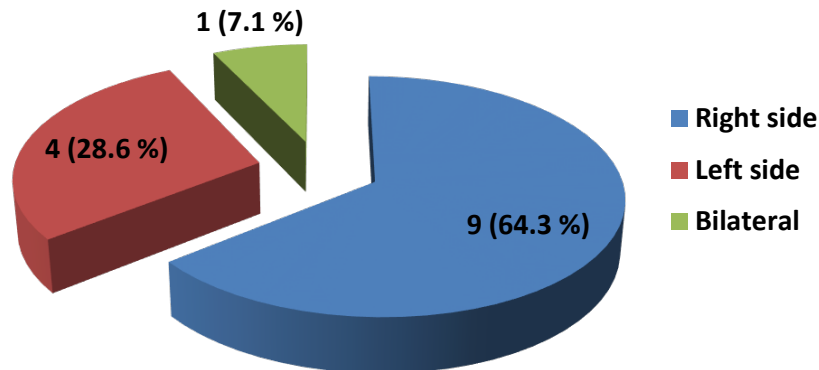


Figure 3. Localisation of the hernia

According to the intensity of pain estimated by the VAS scores, patients were divided into three groups respectively the group with mild pain (VAS score 1-3), moderate (4 -7) and severe (8 – 10). The majority of patients or 7 of them (50 %) had mild pain, 5 (35.7 %) moderate pain and 2 of them (14.3 %) severe pain.

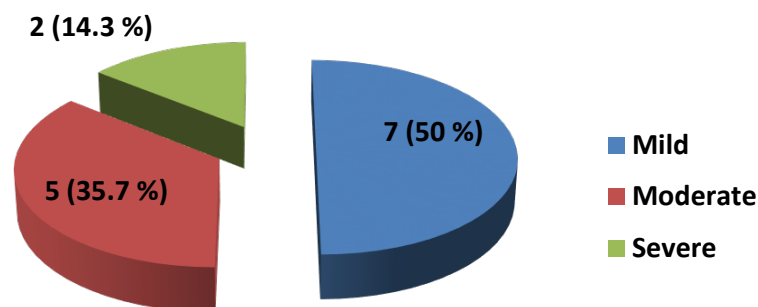


Figure 4. Intensity of pain

Out of fourteen patients with chronic postoperative pain included in this study in twelve of them the hernioplasty was performed with free tension technique using polypropylene mesh, while in other two using Shouldice technique.

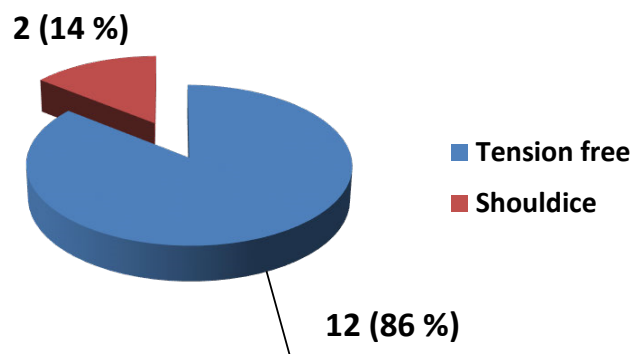


Figure 5. Mode of correction

In our study it was found that post operative complications not only increased early postoperative pain but also increased the risk for development of chronic pain .So among 14 patients who complain for chronic postoperative pain six of them suffered from early post operative complications such as wound hematoma, seroma or wound infection. As well the early intensive post operative pain during the first day may trigger occurrence of chronic pain.

DISCUSSION

Application of new technique for inguinal hernia repair such as tension free repair is considered the “gold standard” in hernioplasty because allowed the reduction of recurrence rates. However soon became noticeable the fact that while the recurrence rates declined, it was registered an increase in the incidence of chronic inguinal pain (Kehlet *et al.*, 2006).

Recently chronic pain after hernioplasty represents one of the modern surgeon’s great challenges because of his negative impact on the quality of life. It has been estimated that the incidence of chronic pain after inguinal hernia surgery is not rare, and varies by 0.7-43.3% (Kehlet *et al.*, 2006, Alfieri *et al.*, 2011, Callesen *et al.*, 1999).

The mechanisms of chronic pain after inguinal hernia repair include nerve injury, development of neuromass at the lesion site, peripheral or central sensitization, change of behavior and mood after surgery, or genetic contribution (Kelet *et al.*, 2006, Franneby *et al.*, 2006).

The incidence of chronic pain after tension free hernioplasty, reported by different authors varies between 0 – 50 %¹⁵. In a study of Manangi et al. (Managi *et al.*, 2014) the incidence of chronic pain was 39.4%. Mild pain was found in 30.5% of patients, moderate pain in 7.9%, whereas severe pain in less than 1% of patients.

In a large nationwide study taken in Denmark by Bay-Nielsen (Bay-Nielsen *et al.*, 2001) chronic pain after inguinal hernia surgeries was about 28.7 %, whereas according to the European Hernia Society severe pain enough to cause difficulties in everyday life may occurs at 0.5-6.0% of patients after hernioplasty (Alfieri *et al.*, 2011).

Some authors such as Kerkhof et al. (Kerkhof *et al.*, 2013, Kerkhof *et al.*, 2012) think that one of the most consistent predictors of chronic pain after hernioplasty is the presence of severe acute pain in the first days after inguinal hernia surgery. Others believe that the implant materials produce more adverse effect after inguinal hernia repair and support the idea of reducing the amount of implanted material as much as feasible with the intention of minimizing the risk of chronic pain (Nienhuis *et al.*, 2007, Kehlet *et al.*, 2006, O’Dwyer *et al.*, 2005, Franneby *et al.*, 2006).

CONCLUSION

The prevalence of chronic pain after hernioplasty in our study was 11 %, or 14 of all operated patients suffer for chronic pain, while the severe pain which interfere with the quality of life appeared in only two of them or 1.59 %. According to this our assessment is that careful postoperative follow-up of patients after inguinal hernioplasty is necessary for early diagnosis and treatment of chronic postoperative pain.

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