

Orchiectomy as a Result of Ischemic Orchitis After Inguinal Hernia Repair

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ÖZET

Inguinal herni tamirinden sonra gelişen iskemik orşite bağlı orşiektomi

İskemik orşit, açık ve laparoskopik herniorafi sonrası görülebilen bir komplikasyon olup, orşit sonrası orşiektomi çok nadirdir. 47 yaşında ekstraperitoneal sağ inguinal herniorafi operasyonu ve mesh takviyesi yapılan erkek hasta post op 5. gün skrotumda ağrı, kızamıklık ve şişlik ile başvurdu. Testisin yapılan sintigrafi ve doppler ultrasonografi ile değerlendirilmesinde kanlanmasının izlenmemesi üzerine hastaya orşiektomi yapıldı.

Anahtar kelimeler: Herni, iskemik orşit, orşiektomi

ABSTRACT

Orchiectomy as a result of ischemic orchitis after inguinal hernia repair

Ischemic orchitis is an established complication after open and laparoscopic inguinal hernia repair, but ischemic orchitis resulting in orchiectomy after the surgical approach is very rare. We reported a case of healthy 47 year-old man, with no previous surgery or history of trauma, who presented with right direct inguinal hernia. He is a thin, muscular male with a narrow pelvis who underwent right extraperitoneal mesh implantation with open inguinal hernia repair. The patient was discharged on the same day and doing well with minimal pain and swelling until the fifth day after surgery. That night he presented with sudden-onset of pain and swelling of his right testicle and denied both trauma to the area and any sexual activity. Scintigraphy and ultrasound of the testicle revealed no blood flow to the testicle which required exploration and subsequent orchiectomy.

Key words: Hernia, ischemic orchitis, orchiectomy

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INTRODUCTION

Inguinal hernia repair is one of the most commonly performed surgical procedures. However, recurrence of hernias has been reported to occur after repair in 15% or more cases, and postoperative pain and disability are frequent (1,2). Modern treatment of inguinal hernias frequently includes prosthetic mesh repairs. The benefits of prosthetic hernia repairs compared with direct tissue-tissue repairs include shorter hospital stays, lower recurrences, and decreased postoperative pain (3,4). However, direct contact between the mesh and the vessels in the inguinal canal as well as perimesh fibrosis

may have a negative impact on testicular flow, with two possible complications being ischemic orchitis and testicular atrophy (5). We report a case of orchiectomy as a result of ischemic orchitis after inguinal hernia repair.

CASE REPORT

A 47 years old male patient was presented with pain and swelling of right testicular. In the history, it has been indicated that he had a right inguinal hernia operation a week ago, minimal postoperative pain was increased by the second postoperative day and peak of pain was seen on the postoperative fifth day. After the examination, scrotal doppler and testicular scintigraphy at the hospital which he applied, the treatment was planned with the pre-diagnosis of torsion which caused right testicular ischemia. However, in the seventh postoperative day, he applied to our clinic. In the physical examination, the right inguinal incision scar hyperemia and edema in the right testis was observed. Moreover, right testis was

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elevated, painful; also there was edema and hyperemia in the right scrotum skin. Left testis examination was normal. In the conclusion of investigations and examination; a right inguinal exploration was performed on the same day. Serohemorrhagic fluid of 100 cc was drained from the inguinal canal through the old incision line. After opening the suture lines in the aponeurosis of the obliquus externus abdominis, the right spermatic cord was observed. Cord was ecchymotic and edematous. Then right testis and cord were dissected until internal ring. Right spermatic cord and right testis were ecchymotic and edematous. It has been observed that; in an area close to the internal canal, the spermatic cord was strangled by mesh, which was placed in hernia operation. In the proximal of this area; the structure of spermatic cord was solid. There was no arterial bleeding after incision of the tunica albuginea. Ischemia was observed in the testis and the spermatic cord. The spermatic cord was clamped from the ischemic area and right orchiectomy was performed. Mesh revision was made. Surgical site was irrigated with antibiotic solution and hemovac drain was placed. In the postoperative second day, the hemovac drain was removed and the patient who had no complications was discharged from the hospital. Examination was normal after postoperative 2 weeks.

DISCUSSION

Testicular ischemia and necrosis after inguinal hernia surgery is an uncommon complication that is reported rarely in the literature. It is thought to be due to acute thrombosis of the pampiniform venous plexus rather than arterial injury (6). Ischemic orchitis typically presents 2-3 days after inguinal hernia surgery and can progress to infarction. For primary open inguinal hernioplasty testicular atrophy occurs in 0.5%, while for open recurrent hernioplasty the incidence can approach 5% (7-9). Iles reports a 1% incidence of testicular atrophy in 28.760 open inguinal hernia repairs, while Phillips notes testicular problems including pain, swelling, and orchitis in 0.9% to 1.5% of laparoscopic inguinal hernia repairs (10,11). Orchitis is thought to be more common after open procedures particularly associated with large indirect and recurrent inguinal hernias due to greater manipulation of the spermatic cord beyond the pubic tubercle and during dissection of the distal hernia sac (6). Wantz

reported eleven (0.49%) incidences of ischemic orchitis and only two (0.09%) resulted in testicular atrophy (12). All these cases were associated with scrotal indirect inguinal hernias with extensive cord dissection to remove the hernia sacs. In literature, there is not significant consensus about spermatic cord structure, testis volume and arterial bleeding changes which depends on prothetic mesh direct contact or fibrosis of the perimesh tissue. Uzzo et al, observed that there was a significant decrease in arterial perfusion of testicles, testicular temperature. However, testicular volume was found to be increased in both treatment groups. They concluded that polypropylene mesh could have negative effects on anatomic structures within the inguinal canal, and therefore, could be used in selected cases with caution (13). In literature, there are numerous experimental studies investigating the effects of prothetic biomaterials on hormonal and histological responses of anatomic structures such as testicular vessels, testicles, epididimis, and vas deferens within the inguinal canal (14,15). Turgut et al. evaluated 48 patients with unilateral groin hernia by scrotal Doppler scan in the pre-operative period (16). Both testicles were evaluated in the study, and testicular volume and RI of intratesticular arteries were found to be significantly higher at the hernia side. According to the data, they suggested that, this difference could be the result of intermittent mechanical compression of spermatic cord within the inguinal canal. Shin et al. published a series of 14 patients with azoospermia secondary to inguinal vasal obstruction after polypropylene mesh hernioplasty. The authors concluded that surgical restoration of fertility can be extremely difficult secondary to the fibrotic reaction. Therefore, the authors concluded that the young patients who would have inguinal hernia surgery, particularly with mesh, should be given detailed information prior to surgery about the risk of developing infertility secondary to vasal obstruction (17). Beddy et al. suggested that inguinal hernias could lead to an alteration in testicular blood flow which could result in decreased fertility (18).

The need for right orchiectomy in this 49 year old man presenting with an acute scrotum 7 days after open inguinal hernioplasty should be addressed. The testicular ultrasound/duplex scan indicated a diagnosis of infarcting right testicle and scintigraphic uptake in the right testis was not observed. Despite the more likely diagnosis of right testicular infarction secondary to the

recent inguinal hernioplasty, torsion of the testicle had to be considered. Torsion of the testicle has been reported in 26-39% of cases in men over age 21; while up to 10% occur in men over age 30 (19,20). The finding of a necrotic testicle without torsion was confirmed by lack of any bleeding in a deep incision of the testicular tissue within 10 minutes and led to orchiectomy. This patient was not informed for the rare possibility of orchiectomy as a complication of laparoscopic preperitoneal hernia repair. Considering the magnitude of this complication, albeit less than 1% was reported, we recommend a frank discussion of possible orchitis, atrophy, or rarely orchiectomy. Despite the rarity of this complication or possibility of frightening the patient unnecessarily, the medical legal climate mandates this counseling. We also avoid the use of cautery in proximity

to tissues that could lead to venous thrombosis of the cord structures. Finally, the diagnosis of evolving testicular ischemia should be rapidly sought via doppler ultrasonography or with nuclear imaging so as to limit injury to the testicle (21). This ischemic injury is likely due to thrombosis of the venous plexus, rather than iatrogenic arterial injury or inappropriate closure of the inguinal canal. Ultrasound/duplex scanning of the postoperative acute scrotum can help differentiate ischemic orchitis from infarction. Unfortunately, testicular torsion cannot be ruled out and scrotal exploration may be necessary. Although ischemic orchitis, atrophy, and orchiectomy are uncommon complications, all patients should be warned of these potential complications and operative consent should include these risks irrespective of the type of hernia or the surgical approach.

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