

Case Report

Grey-Turner's sign after modified Kugel herniorrhaphy

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Abstract: Tension-free hernia repairing techniques is a popular herniorrhaphy for open inguinal hernioplasty and the modified Kugel herniorrhaphy (MKH) is a kind of tension-free hernia repairing technique. The modified Kugel herniorrhaphy (MKH) is a minimally invasive, non-laparoscopic, conventional anterior approach, preperitoneal and sutureless technique. It is well accepted by most people because of few complications and low recurrence rate. A case of an 82-year-old man underwent MKH. After the third day of postoperation, a strange symptom of Grey-Turner's sign appeared and maintained for 10 days.

Keywords: Inguinal hernia, modified Kugel herniorrhaphy, preperitoneal approach, Grey-Turner's sign, tension-free

Introduction

Inguinal hernia is a very common disease and there are several operations to deal with it, including tension hernia repairing techniques, tension-free hernia repairing techniques and laparoscopic repairing techniques. With the development of medical improvement, more and more patients and doctors choose tension-free hernia repairing techniques and laparoscopic repairing techniques. Recent scientific evidence favors the open mesh techniques over laparoscopic repair, which is considered to be a better option for bilateral and recurrent hernias [1]. modified Kugel herniorrhaphy is considered a good method to settle down inguinal hernia because of the merit of low rate of recurrence and the other two hernia occurrence (pathway of inguinal hernia: the internal ring, Hesselbach's triangle, and the femoral canal).

Grey turner sign generally indicates hemorrhage especially retroperitoneal hemorrhage and refers to ecchymosis of the flanks and may occur in conjunction. Often, Grey turner sign results from acute pancreatitis, and signals severe disease, with a high mortality [2].

Case presentation

An 82-year-old male presented with left inguinal hernia for 3 years, in which the hernial sac

underwent a slow growing from soybean size. With the development of hernia, hernia contents came into scrotum. On physical examination, the hernia was tender and mobile, and had a diameter of approximately 8.0 cm × 7.5 cm (**Figure 1**). Laboratory testing (blood routine and biochemical examination, urinalysis) revealed normal results.

After epidural anesthesia with 1.5% mepivacaine hydrochloride, an operation was carried out: after opening the external oblique muscle, spermatic cord and hernia sac were found and separated. Extraperitoneal space then was segregated sufficiently. Bard-modified Kugel hernia patch (8 × 12 cm, Bard) was placed on the extraperitoneal fat. The operation was well done and there was no obviously bleeding. After the 3 days of operation, Grey turner's sign was discovered at the left waist, and then 10 days later, the sign disappeared.

Discussion

With the development of hernia operation, people more and more concern on less operative pain and better postoperative recovery. It is laparoscopic hernia repair that meets the need. However, there is a disadvantage of more expensive charge and general anesthesia, so modified Kugel herniorrhaphy appears which includes the advantage of modified Kugel herni-

Grey-Turner's sign after modified Kugel herniorrhaphy



Figure 1. Grey-Turner's sign at the left waist (about 8.0 cm × 7.5 cm).

orrhaphy and excludes the disadvantage. That to say: it combines the merits of preperitoneal laparoscopic repair with those of an open procedure [1, 3].

The modified Kugel herniorrhaphy which is a posterior approach repair technique using a flat meshes that memory-recoil ring mesh was tiled on the preperitoneal space so that three of inguinal hernia could be drastically guaranteed.

Some article indicates that complication rates of both Lichtenstein and modified Kugel are similar, including seroma, haematoma, cord thickening, testicular pain, hydrocele, wound infection, which are immediate outcomes, and chronic abdominal wall pain, polypropylene mesh broking, which are immediate outcomes, which are long-term outcomes [4].

Grey-Turner's sign is associated with acute pancreatitis, ectopic pregnancy, perforated duodenal ulcers, portal hypertension and splenic rupture [2].

Yet, there has not been report about Grey turner sign after modified Kugel herniorrhaphy sign. According to retrospectively the operation process, there was no obvious bleeding errhysis and at last operative field was clear. Reasons were analyzed about the several conditions: firstly, Grey turner sign appeared in the third day after operation, maybe activity played a role. In the first and second day, although the patient was advised to move as soon as possible, enough activity was not carried out and the

sign was not appeared. When the sick moved a lot, mesh maybe moves more or less, leading to scratch small vessels. Blood moved from preperitoneum to retroperitoneum and Grey-Turner's sign raised.

In conclusion, tension-free hernia repairing techniques is a popular way to deal with inguinal hernia, in which modified Kugel herniorrhaphy is accepted for few complications and low recurrence rate. Grey turner's sign followed this operation is rare and surgeon should pay attention to it. During the operation, doctors should do it softly, and also advise patients move gentle.

Disclosure of conflict of interest

None.

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