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Case Report / Приказ болесника

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A case of a three-month-old female infant with incarcerated femoral hernia

Приказ тромесечног женског одојчета са инкарцерираном феморалном хернијом

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SUMMARY

Introduction Femoral hernia in children is very rare and it appears in 0.2% of all hernias during childhood. It is three times more frequent in girls. The aim of this paper is to present a female infant with incarcerated femoral hernia.

Case outline A female infant aged three-months was hospitalized with classical clinical signs of incarcerated left femoral hernia. After preoperative preparation, a transversal inguinal incision was performed on the left side and an incarcerated femoral hernia was confirmed with a torn and gangrenous left ovary and fallopian tube. Following adnexectomy, the hernia sac is ligated and resected and hernioplasty was made by the reconstruction of Cooper ligament.

Conclusion A delayed surgical intervention for incarcerated femoral hernia in a female can result in a loss of the ovary and fallopian tube, which may lead to serious consequences later in life.

Keywords: femoral hernia, incarceration, ovary and fallopian tube

САЖЕТАК

Увод Феморална хернија код деце је изузетно ретка и јавља се у око 0,2% свих хернија дечје доби. Троструко је чешћа код деце женског пола. Приказујемо женско одојче са инкарцерираном феморалном хернијом.

Приказ болесника Женско одојче узраста три месеца хоспитализована са класичним клиничким знацима инкарцериране феморалне хернije са леве стране. Након преоперативне припреме направљен је попречни рез ингвинално лево где је нађена укљештена феморална хернија са торквираним и гангренозно измењим оваријумом и тубом утерином. Након учињене аднексектомије, килна кеса је подвезана и ресецирана и направљена је пластика канала реконструкцијом Куперовог лигамента.

Закључак Прекасна хируршка интервенција је резултирала губитком левог аднекса, што може оставити озбиљне последице на њен даљи живот.

Кључне речи: феморална хернија, инкарцерација, оваријум

INTRODUCTION

According to McVay, hernias represent the defect of the continuity of normal musculo-aponeurotical and fascial abdominal wall [1]. They can be either congenital or acquired, with a protrusion of abdominal cavity contents through the openings of the abdominal wall. Persistent patent processus vaginalis is presented by the peritoneal turn-up which goes from the inguinal region to the scrotum or labium [2]. Femoral and direct inguinal hernias in children are very rare.

Femoral hernia is the type of hernia in which a protrusion engages the femoral ring and fascia transversalis, penetrating into regio cruralis through the relatively small femoral openings.

Femoral canal has got the shape of a cone with two holes. The first one, femoral ring, which is the entry part of the femoral canal, and the second one, greatly smaller, is the lower femoral hernia opening or saphenous opening which stands a few centimetres lower of inguinal ligament. The saphenous opening is the exit part. Accordingly, femoral hernia is diagnosed only when the contents of the femoral hernia pass through the canal. In normal conditions, along side of the connective

tissues are some small lymph nodes (Cloquet-Rosenmuller). Above the distal femoral hernia hole there is fascia cribriformis.

The anatomical variation of the narrow posterior inguinal wall attachment on to the pectineal ligament, resulting in an enlarged femoral ring, may be the primary aetiological factor, according to Tasche [3]. The increased intraabdominal preasure enables the herniation.

Incarcerated femoral hernias are more frequent in comparison with direct and indirect inguinal hernias. It is important to diagnose this state in an appropriate time because complications can endanger a patient's life.

CASE REPORT

A girl of three months was admitted for immediate treatment at the local health center. Upon the admission the child showed clinical signs of a very ill patient. Abdomen was lightly painful in the lower parts. In the left inguinal area there was a nut-sized lump with erythematous skin. The symptoms began five days ago with irritability and crying. She arrived to her doctor after three days due to objective reasons. The symptoms did not improve and she was hospitalized. According to the history and clinical work-up (Table 1), a surgical intervention in general anesthesia was indicated. A transversal inguinal incision was made. The twisted and gangrenous ovary and fallopian tube were found in the hernial sac (Figure 1). Left adnexectomy was performed (Figure 2). The hernial sac was ligated and resected. Hernioplasty was made by the reconstruction of the Cooper ligament and the wound was closed by the layers. The operation was uneventful and postoperative period was without complications.

DISCUSSION

Femoral hernias are very rare in children. Fonkalsrud's review of 5452 cases, and Bruke's review of 4567 patients showed only 21 (0,2%) patients with femoral hernias. The age of the patients was from six weeks to 13 years. Five patients had strangulated femoral hernias [4–7]. They are more frequent in girls than in boys (3:1) [8].

In our case, we had incarcerated femoral hernia on the left side which content was fallopian tube and ovary. In the literature it is described as a rare occurrence [9, 10].

In the modern surgical practice, there is a tendency to diagnose every type of hernias as soon as possible which makes the intervention easier and provides better postoperative results.

Incarcerated hernias pose serious complications. Usually incarcerated organs are: small intestines, the colon, appendix, omentum, ovaries, and the fallopian tubes. In incarcerated hernias manual reposition by taxis can be dangerous, so the immediate surgical interventions are suggested.

The diagnosis, treatment and the prognosis of the incarcerated hernias depend on the degree of the pathological changes in venous and arterial blood flow of incarcerated organs [11]. If this process continues for a sufficient period of time, which can vary from hours to days, herniated content becomes gangrenous and necrotic.

The chosen optimal method for the certain type of hernias presents the precondition for the optimal postoperative results. The method should be maximal physiological, and to derange the functional integrity of the back wall of inguinal canal as less as possible. The main aim of our choice is the method which is, in the concrete case, going to give the best result. The good result is manifested by small postoperative morbidity and low percent of the recurrence.

We used McVay's repair method, which is usually the most common treatment for femoral hernias in children, and some surgeons quote that it gives fewer recurrences [12, 8]. In femoral hernia surgery, it is essential to ligate the sac, manage the posterior wall of the inguinal canal, and suture the femoral ring regardless of which method is used [13, 14].

In order to avoid the complications which can lead to the strangulated hernias the adequate checkup and setting the correct and opportune diagnosis is needed such as the indication for surgical treatment. In this case the situation was perceived and the baby girl of three months came to the surgeon too late. During the operation, the most appropriate surgical method for a twisted and gangrenous ovary and fallopian tube was adnexectomy.

Even with real serious consequences in a patient's life, we are expecting adequate reproductive possibilities with preserved functionalities.

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Table 1. Values of complete blood count on admission

Blood element	**Value**
RBC	3.7×10^{12} /l
HGB	113 g/l
HCT	0.32 l/l
WBC	27×10^{9} /l
GRA	83%
LYM	12%
MON	4.5%
EO	0.5%

RBC – red blood cell; HGB – hemoglobin; HCT – hematocrit; WBC – white blood cell; GRA – granulocytes; LYM – lymphocytes; MON – monocytes; EO – eosinophils

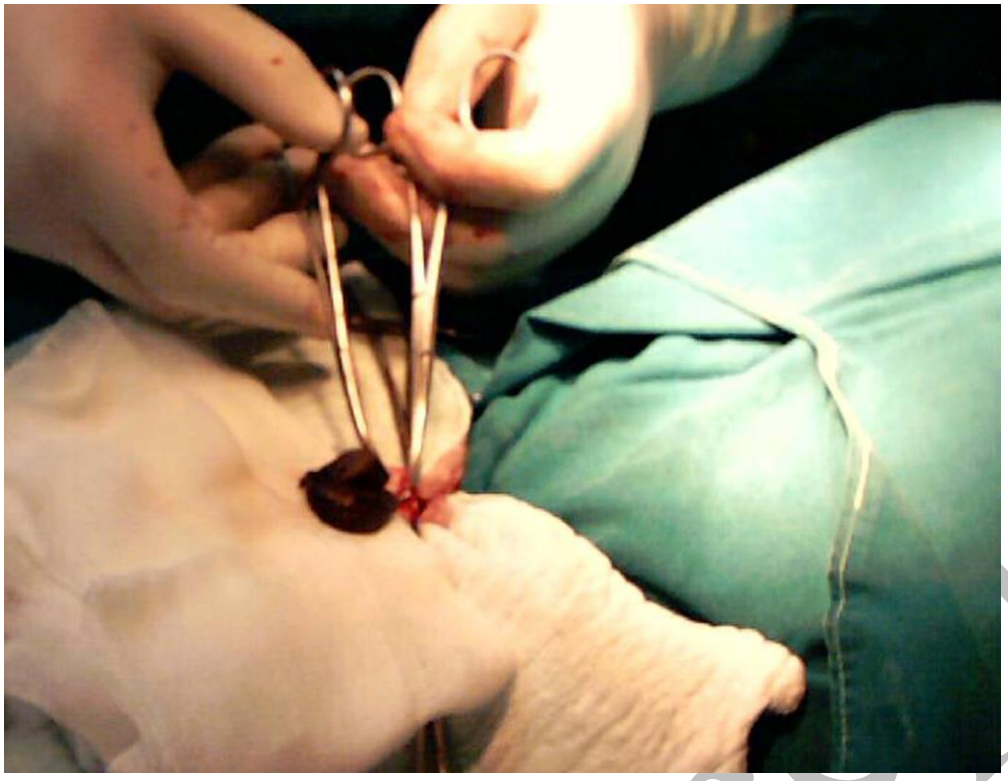

Figure 1. Femoral hernia with a gangrenous ovary

Figure 2. Adnexectomy on the left

