

# Incarcerated femoral hernia containing the right uterine tube.

## A pre-operative diagnosis is possible



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### Incarcerated femoral hernia containing the right uterine tube. A pre-operative diagnosis is possible

*The incarcerated femoral hernia containing the right uterine tube is very rare to see. The case report is important to accumulate knowledge of very rare cases. The diagnosis of the case was established pre-operatively with abdominal computerized tomography (CT)*

*On CT examination, the mass in the hernia sac was not connected with the intestines and a tubal structure on the right side of the uterus was shown to extend out of the abdomen. In the operation, the right uterine tube (RUT) was reduced into the abdomen after its blood supply was shown to be normal. A hernia repair was performed.*

*Sometimes in obese patients, incarcerated femoral or inguinal hernias may not be noted. Ultrasonography, CT and magnetic resonance imaging (MRI) is used frequently to diagnose abdominal wall hernias. The organs in the incarcerated sac must be examined carefully and the viability must be checked. The surgeon must decide whether or not to resect the organs. In our case, strangulation was not found and polypropylene mesh was not used for hernia repair due to a fear of infection of the prosthesis. Incarceration of the uterine tube in the sac is traumatic and this condition may lead to infection. Such conditions may lead to ectopic pregnancy. The patient must be informed about ectopic pregnancy due to a previous incarceration of the tube because ectopic pregnancy may be fatal.*

KEY WORDS: Femoral hernia, Fimbria, Hernia, Uterus, Uterine tube

### Introduction

Small intestine and omentum frequently enter a hernia sac and large series exist involving such cases. Some organs are less frequently involved and no large series

exist in the literature. Thus, the case reports are important to generate large series or to accumulate knowledge of very rare cases. Our case is very exciting for two reasons: the right uterine tube was contained within the hernia sac; and the diagnosis was established pre-operatively with abdominal computerized tomography (CT). For these reasons our case report is presented.

### Case report

The patient was 39 years old female. She gave permission to be the subject of this case report. She sought evaluation in our emergency service for of an inguinal mass

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of three days duration. The mass was under the inguinal ligament on the right side. There was no leukocytosis and the biochemistry parameters were normal. On ultra-

sonographic (US) examination, an immobile, hypoechoic, rough granular mass with surrounding fluid in the sac was noted. On CT examination, the mass in the hernia sac was not connected with the intestines and a tubal structure on the right side of the uterus was shown to extend out of the abdomen (Fig. 1).

The case underwent surgery with a pre-operative diagnosis. Intra-operatively, the right uterine tube(RUT) and fimbria were seen in the sac with reactive fluid (Fig. 2). The RUT was reduced into the abdomen after the blood supply its was shown to be normal. A hernia repair was performed. The case was discharged with no complications.

### Discussion and commentary

A femoral hernia is seen 2%-4% of all groin hernias. Intestinal resection is performed in 22.7% of emergency femoral hernia procedures. Emergency femoral hernia procedures are performed more often in females than males <sup>1</sup>.



Fig. 1: Incarcerated right uterine tube in the femoral hernia sac.

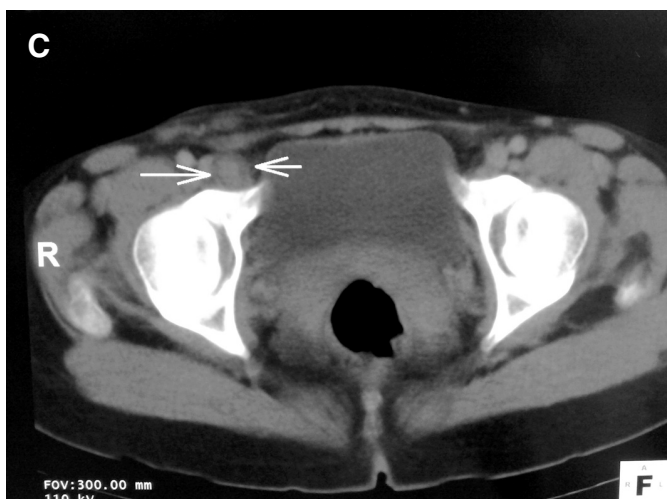
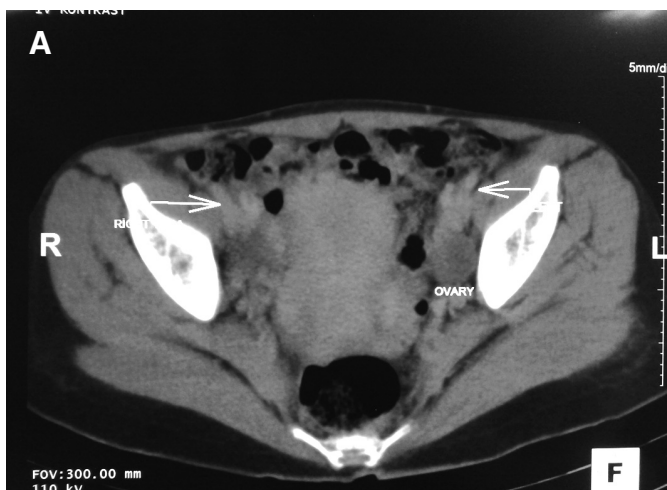


Fig. 2: CT imaging of the RUT. A: Right and left tubas and left ovary are shown. B-C: The right tuba is marked with arrow D: The right hernia sac is shown.

Hernias are not always diagnosed on physical examination. Sometimes in obese patients, incarcerated femoral or inguinal hernias may not be noted. In the femoral region, lymphadenopathy may not be differentiated from hernias. Ultrasonography (US) is non-invasive and non-ionizing. US is used successfully in palpable and non-palpable hernias. US may differentiate lymphadenopathy from hernias in the femoral region <sup>2-4</sup>. CT and magnetic resonance imaging (MRI) is used frequently to diagnose abdominal wall hernias <sup>5,6</sup>.

In our case, definitive diagnosis was not performed with physical examination and US was performed. Because on US examination lymphadenopathy was not noted, but some fluid and a rough granular mass were demonstrated, thus CT was used to establish a differential diagnosis. The patient agreed with the decision for surgery because the right fallopian tube was contained within the sac on CT imaging.

The organs in the incarcerated sac must be examined carefully and the viability must be checked. The surgeon must decide whether or not to resect the organs. After this, viable organs must be carefully reduced into the abdominal cavity <sup>7</sup>.

Some authors advocate that if colonic necrosis or peritonitis is not present, polypropylene mesh may be used for the hernia repair. According to some clinical trials, no infection of the prosthesis occurred, even in cases in which the small intestine is necrotic and resected. But in strangulated cases in which severe infections occur, and in this case Cooper's ligament repair should be used because there is a risk of infection of the implanted prosthesis. In our case, strangulation was not found and polypropylene mesh was not used for hernia repair due to a fear of infection of prosthesis <sup>8-1</sup>.

Incarceration of the uterine tube in the sac is traumatic and this condition may lead to infection. Such conditions may lead to ectopic pregnancy <sup>11</sup>.

## Conclusions

As a result, patients with femoral hernias must undergo surgery with priority to avoid incarceration <sup>1</sup>. Radiologic imaging techniques must be used pre-operatively. Organs in the hernia sac must be examined carefully and if resection is not needed, the organs must be gently reduced into the abdomen. The patient must be informed about ectopic pregnancy due to incarceration of the tube because ectopic pregnancy previous be fatal.

## Riassunto

Il ritrovamento della tuba uterina destra all'interno di una ernia crurale incarcerata è un evento di osservazione molto rara. Riferire di un caso simile è dunque importante per aumentare la conoscenza dei casi rari.

La diagnosi del caso in questione fu possibile preoperatoriamente con la TC addominale perchè la massa contenuta nel sacco erniario non mostrava connessione con l'intestino, mentre una struttura tubulare sul lato destro dell'utero si dimostrava proiettarsi fuori dell'addome.

All'intervento la tuba uterina destra è stata reintegrata nell'addome dopo aver verificato la normalità della sua irrorazione sanguigna. Quindi si è provveduto a riparare l'ernia.

Talvolta nei pazienti obesi le ernie inguinali o crurali incarcerate possono sfuggire. L'ecografia, la TC e le immagini di RM sono spesso utilizzate per diagnosticare le ernie della parete addominale. Gli organi contenuti nel sacco erniario devono essere osservati accuratamente controllando la loro vitalità. Il chirurgo deve decidere se resecare o conservare questi organi.

Nel caso in esame non fu rilevato uno strozzamento erniario, ma non venne utilizzata una mesh di polipropilene per la riparazione erniaria per il timore di una infezione della protesi. L'incarceramento di una tuba uterina nel sacco è un evento traumatico per la struttura, e questa situazione può indurre allo sviluppo di una infezione. La stessa condizione può portare ad una gravidanza ectopica.

La paziente deve essere informata circa la possibilità di una gravidanza ectopica per il precedente incarceramento delle tuba perchè questa eventualità potrebbe diventare fatale.

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