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Ectopic adrenal tissue in a hernia sac in an adult. A case report

The discovery of ectopic adrenal tissue in the hernial sac is very rare, and in the majority of reported cases it is in children, while it is never described in adult subjects. This could be due to a progressive previous atrophy of the ectopic tissue or to an insufficient examination of the sac removed surgically.
The most frequent site of these ectopias is the kidney, adjacent to the adrenal glands.
The presence of ectopic adrenal tissue is important because of its neoplastic and hyperplastic potential. We report a case of a 69-year-old male patient who underwent a surgical operation of a left inguinal hernia and that the presence of ectopic adrenal tissue was reported in the pathologist's report.
Preoperative abdominal ultrasound should therefore be performed in patients destined for an inguinal hernia surgery, because also the rare existence of ectopic adrenal tissue in the hernial sac should be kept in mind.

KEY WORDS: Adrenal, Adult, Ectopia, Herni sac

Introduction

The ectopic adrenal tissue was first identified by Morgagni in the early 1740s [1]. Then several ectopic adrenal tissue nodules have been reported in many parts of the body such as the kidney, celiac trunk axis, thorax, liver, lungs, brain and genital organs. The most common location of these foci is the kidneys close to the adrenal glands. Ectopic adrenal tissue in the hernia sac is very rare and most of the reported cases are children [2].
We report the first case of aberrant adrenal tissue in the inguinal hernia sac that we have encountered so far in our clinic.

Case presentation

A 69-year-old male patient presented to our outpatient clinic with swelling and pain in the left groin. Patient's swelling started a year ago, swelling has increased over time, and the pain has been increased over the past week. One year ago, he was diagnosed with benign prostatic hyperplasia and recieved medical treatment. There was no peculiarity in his family history.
His physical examination revealed a swelling in the left inguinal region and it is reducable during the examination. The patient underwent abdominal ultrasonography (USG); Reported as: The mesenteric fatty tissue and bowel loops is herniated from a 1.5 cm defect to subcutaneous region, it is reducable with compression and there are no other intraabdominal pathologies.
The patient was informed with his current condition with USG report about the inguinal hernia and the necessity of surgery. The patient hospitalized after he accepted the operation and preoperative tests were performed. His hemogram and biochemical parameters were within normal limits.

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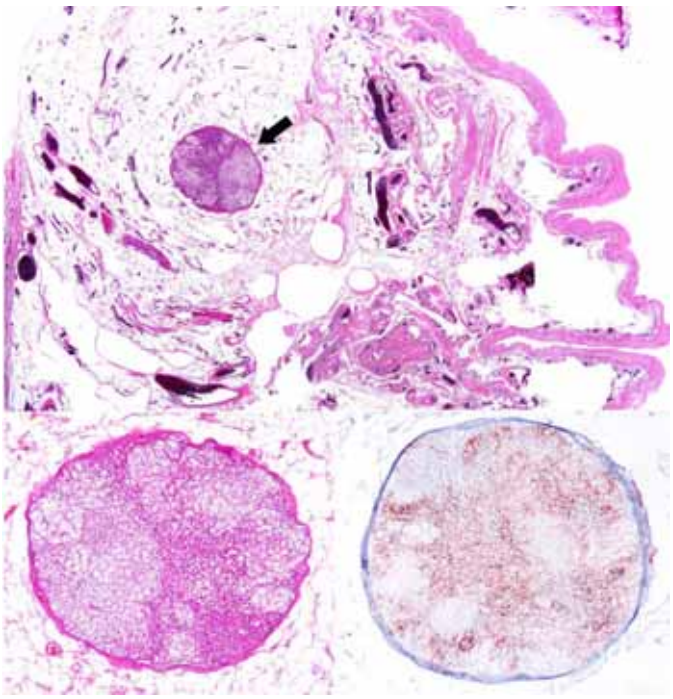

Fig. 1: Ectopic adrenal cortex tissue in area fibroadipose tissue indicated by arrow. (Haematoxylin eosin staining, original expansion x 40).

During the operation left indirect inguinal hernia was detected in the patient. There was a fibroadipose tissue in the hernia sac and cord lipoma on the edge. These were separately excised and sent to the pathology laboratory. Lichtenstein Tension-Free Hernioplasty was performed.The patient was discharged the next day.
Pathology result; The ectopic adrenal cortex of fibroadipose tissue was seen as seen (Fig. 1). After consulting with Endocrinology clinic no follow ups needed for this patient.

Discussion

In general, heterotopy in the human body is a rare event [3,4]. In one study, 11,265 surgical pathologies were examined and only 29 were diagnosed as heterotopia. The most common pancreatic heterotopia was observed, followed by gastric, adrenal and osseous heterotopia [5]. There is an overall incidence of 1.66% in children undergoing inguinal surgery [6]. However, no incidence was found for adults. This might be the result of atrophy of the remaining tissues over time and insufficient dissection [7].
In a study by Demellawy et al, nine cases of adult adrenal tissue cases were found in the adult population besides their own case reports and all of these cases were male [8]. We also observed the ectopic adrenal tissue in hernia sac at our clinic for the first time . Heterotopic or ectopic adrenal cortical tissue is located in the upper abdomen or anywhere along the gonads' landing path [1]. Adrenal cortical tissue develops from the mesoderm in the medial of the developing gonads. Therefore, it can be carried downwards with gonadal organs. Since the adrenal medulla develops from neuroectoderm, the ectopic adrenal medulla tissue is not expected to be in the groin [8].
It is a bright yellow nodul in the hernia sac, usually 1-4 mm in diameter, in round or oval shape and often similar to fat lobes [9]. We did not recognize these nodules in the hernia sac and we diagnosed it by chance. If we had undergone laparoscopic repair which is the gold standard in the inguinal hernia repair today, we would have not remove the hernia sac and it would be unnoticed. Ectopic adrenal tissue is important because of its neoplastic and hyperplastic potential. Feochromocytoma, leydig cell tumor and adrenal adenoma have been reported. Adrenal insufficiency may also develop after removal of ectopic tissue if normal glands are absent or low functional [5].

Conclusion

Preoperative abdominal USG should be performed in patients who are planned to undergo inguinal hernia operation, and the existence of ectopic adrenal tissue in the herniated sac should be kept in mind. If the USG scan does not show adrenals in the abdomen, and if there is any bright yellow ectopic adrenal tissue is recognized in the hernia sac, leaving these tissues in place will be necessary to prevent possible adrenal insufficiency.

Riassunto

Il ritrovamento di tessuto surrenalico ectopico nel sacco erniario è molto raro, e per la maggior parte dei casi segnalati si tratta di bambini, mentre non risulta mai descritto in soggetti adulti. Questo potrebbe dipendere da una progressiva precedente atrofia del tessuto ectopico o per insufficiente esame del sacco asportato chirurgicamente.
La più frequente sede di queste ectopie è il rene, in adiacenza con le ghiadole surrenali.
La presenza di tessuto surrenale ectopico è importante a causa del suo potenziale neoplastico e iperplastico. Segnaliamo un caso di un paziente maschio di 69 anni, sottoposto a rièarazione chirurgica di un'ernia inguinale sinistra e che nel referto dell'anatomo-patologo è stato segnalata la presenza di tessuto surrenalico ectopico.
L'ecografia addominale preoperatoria anedrebbe dunque eseguita in pazienti destinati ad un intervento per ernia inguinale, perchè deve essere tenuta presente la pur rara esistenza di tessuto surrenalico ectopico nel sacco erniario.

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