

## Case Report

# Ectopic Adrenocortical Tissue Attached to the Inguinal Sac in an Adult

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## Introduction

In 1740, Morgagni first described ectopic adrenal tissue as yellowish nodule in the vicinity of the main adrenal gland [1]. Ectopic adrenal tissue is mostly encountered in children and adolescents. Some authors state that aberrant adrenal tissues may be existing in 50% of newborns [2,3]. The incidence of adrenal tissue in the spermatic cord is less than 1% in adults [4,5]. The low rate is thought to be due to atrophy of ectopic tissue in advanced ages. Ectopic adrenal tissue was reported in various parts of the body such as kidney, coeliac area, thorax, liver, brain [6]. In this article, we present a case of ectopic adrenal tissue in inguinal hernia sac, which is rarely seen in adults.

## Case Presentation

A 28-year-old male patient presented with a complaint of swelling and pain in the right groin that he noticed 6 months ago. On physical examination, it was observed that the swelling was compatible with the right indirect inguinal hernia and could be reduced. Testicle was normal on palpation. There was no history of previous surgery or diagnosis with undescended testicle. His routine laboratory tests were normal. Lichtenstein repair of inguinal hernia was performed on the patient. An orange-yellowish nodular tissue of different color and consistency was observed in the vicinity of the indirect hernia sac. It was excised for pathological examination.

In the pathological examination, the specimen contained cream-yellow soft tissues with a size of 3.5x2x2 cm macroscopically. Microscopic examination revealed that this orange nodule was compatible with an ectopic adrenal tissue (Figure 1). The adrenal gland cells in the sections were largely belonging to the zona fasciculata and zona reticularis which are the parts of the cortex. No increased mitosis, pleomorphism or necrosis suggesting a neoplastic process was observed. During postoperative follow-up, the patient had no imbalance in adrenal hormones in laboratory.

## Discussion

Embryologically the adrenal gland originates from two primordia. The fetal adrenal cortex is derived from the mesoderm and the medulla arises from the ectoderm [2-4]. It is generally accepted that

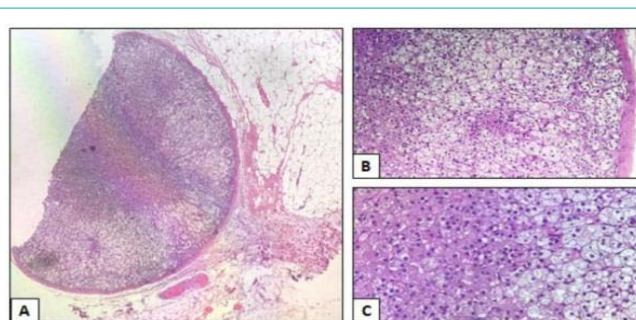
### Abstract

Inguinal localization of ectopic adrenal tissue is a rare condition in literature. We report an unusual case of a 28-year-old male patient with ectopic adrenocortical tissue, which was noticed coincidentally as a orange-yellowish nodule during surgery of inguinal hernia and resected for pathological examination.

**Keywords:** Ectopic Adrenocortical Tissue; Inguinal Hernia; Spermatic Cord

adrenal remnants result from the displacement and separation of cortex during the migration and descent of the gonads during the embryonic period. While some adrenal heterotopic tissues remain near the kidney, some may migrate as the gonads descend into the pelvis and scrotum [3]. The tissues that located near to the original position may comprise medulla but the distant ones may generally contain cortex [2,3]. Ketata et al., found ectopic adrenal tissue in 1.66% (n=31) of 1862 patients who underwent inguinoscrotal surgery, and none of them had an adrenal medulla [7]. However, Oguz et al., in 1 of 6 patients, they found the adrenal cortex and adrenal medulla together within the ectopic tissue [6].

The pathological appearance of this ectopic tissue in the inguinal canal is characteristic. Findings show a yellowish round nodule of 1-5 mm in diameter within cremasteric fibers [3-5,7]. The question of whether we should remove these nodules is important. Although ectopic adrenal tissues are not usually related with endocrine abnormalities, they can cause conditions such as hyperplasia and malignancy in some cases. Some authors reported that ectopic tissues showed compensatory hypertrophy in patients who underwent total adrenalectomy. In addition, it has been observed that various surgical interventions on these ectopic tissues cause adrenal insufficiency. Another clinical feature is the transformation to malignancy from ectopic adrenal remnants. It has been reported that



**Figure 1:** A: Ectopic adrenal tissue surrounded by a thin fibrous capsule (H&E; 4X). B-C: The cells that constitute the adrenal tissue; from right to left, the cells of zona glomerulosa, fasciculata and reticularis (H&E; 10X and 20X).

pheochromocytoma, Leydig cell tumors and adrenal adenomas can very rarely develop from these ectopic tissues [1-6].

## Conclusion

Ectopic adrenal tissue is a rare condition encountered in inguinal hernia surgery. For surgeons, the possibility of ectopic adrenal tissue should be kept in mind when encountering yellow-orange nodular structures around the inguinal hernia sac. Considering the hormone production and malignant transformation of this nodule, excision and histological examination is recommended.

## References

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