

CASE REPORT

ACCESSORY ADRENAL CORTICAL TISSUE: AN INCIDENTAL FINDING IN HERNIAL SAC

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ABSTRACT: Accessory adrenal tissue is commonly seen in children during groin explorations; however it is a rare finding in adults. The commonest site appears to be retroperitoneum and hilum of gonads. Hernial sac housing an aberrant adrenocortical nodule is rare and may be misdiagnosed as metastatic renal cell carcinoma or malignant melanoma. We report this case for its rarity.

KEYWORDS: Accessory, adrenal cortex, hernial sac.

CASE DETAILS: A 64years old male was admitted to our hospital for surgical intervention of right sided inguinal hernia. Post hernia repair, the hernial sac with cremasteric muscle was sent for histopathological examination. We received two membranous tissue bits each measuring 5x1x0.5cms and 3x1.5x0.5cms. One of them showed a tan yellow nodule measuring 0.4x0.4cms. Microscopy revealed an encapsulated nodule comprised of groups and nests of large round cells separated by thin vascular channels. Cells had abundant eosinophilic granular cytoplasm. Some of the cells showed cytoplasmic vacuolization and lipofuscin granules (figure 1). However repeated sections did not show evidence of adrenal medulla. A diagnosis of accessory adrenal cortical tissue in hernia sac was given after reviewing the preoperative radiological details for confirmation of presence of normal adrenals.

DISCUSSION: Morgagni in the year 1740 first described the occurrence of ectopic adrenal tissue in close proximity to the adrenal glands. Since then many authors have reported ectopic adrenal tissue at different sites, commonest being the retroperitoneum and hilum of gonads.^{1, 2} Other locations include kidneys, spermatic cord, testis, tail of epididymis, broad ligament, ovary, uterus, hydrocele sac, and rarely in liver, pancreas, large intestine and hernia sac³. Majority of the cases reported are in males.³ Accessory adrenal tissue is commonly seen in children during groin explorations, with an incidence varying from 1.63% to 3% however it is a rare finding in adults. Hernial sac, housing an aberrant adrenocortical nodule is rare with a reported incidence of 0.3 to 0.7% in literature.^{2, 4, 5}

Ectopic adrenal cortical rests are thought to be present in approximately 50% of newborns, but do not persist to adulthood as they usually undergo atrophy and disappear within a few years.⁴ The lower incidence in adults as compared to children as suggested by Sullivan et al⁵ could be because of either involution of ectopic rests, less complete dissection, under reporting or due to difficulty in identification in the adult groin. In a study by Oguzkurt et al. the occurrence of adrenal rests were 1.3% and 3% respectively in boys and girls operated for inguinal hernia.⁴

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Normal adrenal glands are comprised of cortex and medulla. Embryologically cortex develops from coelomic mesodermal epithelium medial to developing gonads while adrenal medulla is of ectodermal origin, developing from chromaffin cells of the neural groove. The medulla gradually descends towards the cortex, invading it from medial side to gain a central position. As this happens, fragments of cortical tissue may split off forming accessories. These accessories are therefore comprised of adrenal cortical tissue and may remain close to main gland or may be dragged along the descending gonads. This explains the common occurrence of only adrenal cortical tissue in the inguino -scrotal location; however accessories close to the main gland may show adrenal medulla in addition.^{6, 8} Anderson et al⁸ also suggest multiple primordia as one of the sources of accessory adrenals.

Rarely ectopic adrenals (especially in cases of true adrenal heterotopias) may be the only adrenals and accidental removal may cause adrenal insufficiency.⁸ hence prompt identification and reporting of the ectopic adrenals (in whatever location) should be done so as to alert the clinician. Accessory adrenals can be associated with various pathological conditions ranging from hyperplasia⁶ to neoplastic transformation.⁷ Cases of adenoma, adreno-cortical carcinoma, pheochromocytoma, Leydig cell tumour and neuroblastoma have been recorded.^[7, 8] Adrenal cortical cells in aberrant sites like the hernial sac in adults may simulate a metastatic renal cell carcinoma or a malignant melanoma,² and therefore awareness of the same is essential to avoid misdiagnosis.

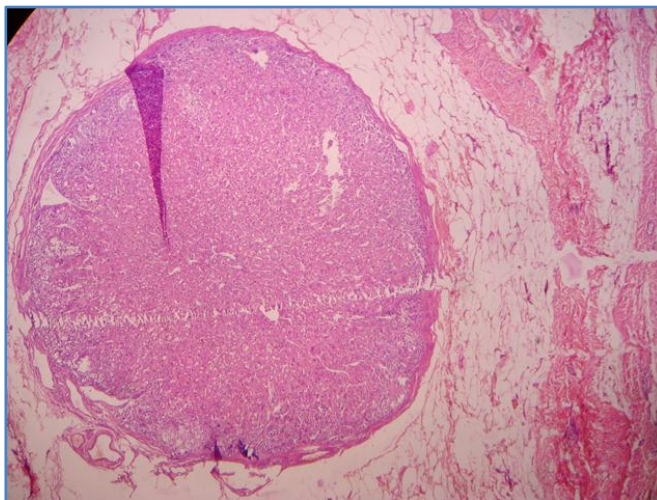


Fig. 1: Low power view of the adrenal cortical nodule embedded in adipose tissue and fragments of cremasteric muscle (H & E, x 10x)

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