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Case Report

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A Rare Case of Dermoid Cyst Arising from Adrenal Gland in an Adult Female

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ABSTRACT

Dermoid cysts of the adrenal glands are very rare in clinical practice of a urologist. These are commonly seen in pediatric age group and very uncommonly in adult patients. We report a rare case of a patient with dermoid cyst of right adrenal gland who presented in Outpatient department with attacks of paroxysmal hypertension and right flank pain for duration of 2 months. CT urography showed a large mass arising from the upper pole of the kidney with extension into the lower lobe of the liver. The tumor comprised of lobules of glomerulosa cells, sweat glands ducts, lobules of sebaceous glands and hair shaft. The patient was successfully treated by surgical excision of the dermoid cyst and patient was discharged on 4th postoperative day in stable and healthy condition.

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Introduction

A dermoid cyst is a teratoma which is composed of well differentiated parenchymal tissue and it usually develops from one or sometimes all of the germ cell layers [1]. Common sites of dermoid cysts are testis ovaries but can also be present in extra gonadal locations like cranium, mediastinum and retroperitoneum [2]. Dermoid cysts involving adrenal glands are very uncommon with the reported incidence of about 4% in literature [3,4].

Case Report

A 25-year-old female presented in the outpatient department of our hospital with presenting complaints of hypertension and right flank pain for last 2 months. There were no associated features of burning micturition, dysuria, hematuria, urgency, frequency, nocturia, diarrhea, constipation, nausea and vomiting. On examination, she was vitally stable with normal cardiovascular, respiratory and nervous systems. Abdominal examination revealed a large mass in the right flank which was easily palpable. All labs including liver function tests, renal function tests, serum electrolytes and complete blood picture were within normal limits. Ultrasound abdomen was done which showed about 12 cm thick walled sonolucent mass along upper pole of right kidney with internal echoes or debris. CT scan with oral and intravenous contrast showed an oval shaped mass of about 14cm×9cm in size with well-defined smooth margins in right suprarenal area and predominantly composed of fat density with soft tissue density areas and dense calcifications suggestive of teratoma. The patient was planned for open exploration after complete anesthesia workup. The mass was approached via 7cm right flank incision and it was found to be densely adherent superiorly to the lower border of the liver with loose attachments to the kidney inferiorly and medially it was strongly adherent to the inferior vena cava.

The mass was successfully excised after separating it from inferior vena cava with careful, blunt and sharp dissection and ligating a large venous tributary of mass which was draining into the inferior vena cava. Patient was discharged on 4th postoperative day in stable afebrile condition and was called for follow up on 12th postoperative day. The patient was instructed to remain in close follow-up for period of next 2 years owing to the malignant transformation in 30% of cases. Grossly it was found to be an open adrenal cyst with size of 9.5 cm with a 6cm large tumor nodule of about 6cm attached to inner surface. It was tan white in color and comprised of large amount of hair and calcified tissue. Cut surface was smooth and yellow showing areas of calcification with hairs covering the tumor nodule. Microscopic examination showed a cyst wall lined by keratinized stratified squamous epithelium, sub epithelial tissue showing adnexal structure composed of ducts of sweat glands, lobules of sebaceous glands and hair shaft. Adrenal gland was compressed and comprised of lobules of glomerulosa

cells. No evidence of malignancy was found and diagnosis of benign mature teratoma was made.

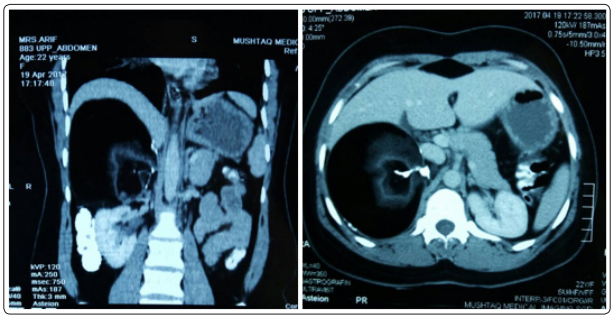

Figure 1 and 2: Axial and sagittal sections of CT scan KUB showing right sided dermoid cyst of right adrenal gland with central zone of calcification

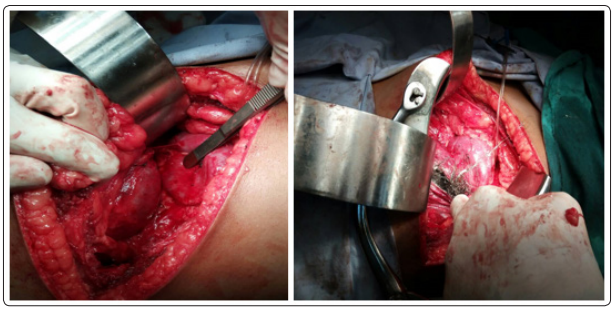

Figure 3 and 4: Clearly showing intraoperative dermoid cyst with hair inside it and its anatomical relation to upper pole of right kidney

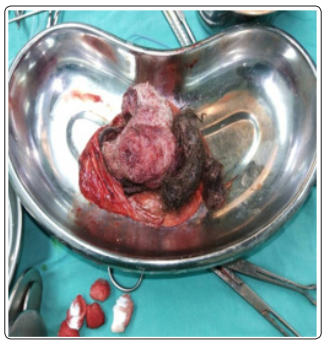

Figure 5: Showing specimen of dermoid cyst after its excision with calcified area and hair inside the cyst

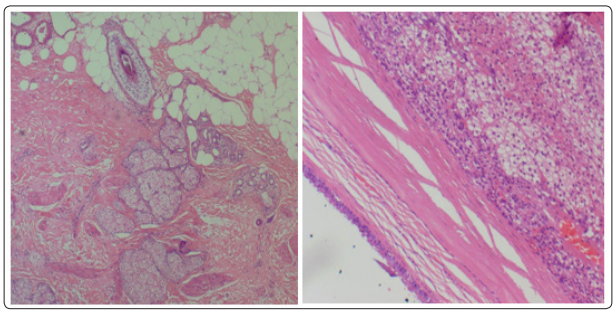

Figure 6 and 7: Histopathology sections showing both zones of adrenal gland and the dermoid cyst with clear demarcation between two zones

Discussion

Primary mature teratomas are composed of parenchymal tissues and they originate from one or more than one of the germ cell layers during embryonic development. They are not commonly present in adult patients and very few number of cases have been found in literature up to date while such lesions in adrenal gland are almost unique [2].

Primary mature teratomas are commonly located in gonads (testis and ovaries), with very small percentage present outside the gonads like cranium, mediastinum, retro peritoneum and pineal gland [2]. These lesions are exceedingly rare in 3rd and 4th decades of life in adult age group and they are more in male than in females. They commonly present on left side than on right side [5,6]. As far as our case is concerned, the patient was female and the primary mature teratoma was found to be on right side.

These teratomas or dermoid cysts are usually asymptomatic but if they produce symptoms, they cause flank discomfort, dysuria or symptoms of lymphatic obstruction. The complications of rupture and abscess formation usually do not happen. Our case presented with complaint of flank pain with no associated features of peritonitis or abscess formation [7].

As far as the management is concerned, such lesions should be excised either by open surgery or laproscopic surgery. Laproscopic approach of management is better as it involves less morbidity, less pain and less complications with early return to routine activities [8-10]. The prognosis of benign mature teratomas is excellent with 5 year survival rate of 100% [11].

As already mentioned above, such lesions usually occur on left side. Difficulties and challenges may come across while operating on either side, though undoubtedly such problems increase in magnitude when operating on right side due to the anatomical presence of inferior vena cava as happened in our case. As far as surgery on left side is concerned, injury can happen to spleen, stomach, colon and pancreas though such intraoperative complications are rarely reported in the literature up to date.

Close follow up is very important in these patients, though malignant transformation is not as much common but still it is recommended to keep these patients in close follow up with appropriate radiographic imaging techniques [12]. We have followed the same plan and instructed the patient to come at regular follow-ups 6 monthly for a time period of at least initial 2 years.

Conclusion

Primary mature tertomas are benign lesions of the adrenal glands which are extremely rare and very few cases have been seen up to date with very impressive prognosis rate. However, if encountered such masses should be meticulously investigated and managed by primarily surgical excision. Though uncommon, such lesions can change into malignant growths so close follow up is required in these patients.

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