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Case Report

An Extremely Rare Origination of Mature Cystic Teratoma from the Adrenal Gland in an Adult Female

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Abstract: Primary teratomas arising from adrenal glands are exceedingly uncommon. They are more common in childhood and rarely occur in adults. We report an unusual case of a giant mature cystic teratoma (Dermoid cyst) arising from a right adrenal gland in 29 years old female. The patient complained of right flank pain for six months. A plain and enhanced computed tomography (CT) scan showed a huge tumor with a mixed density arising from the right adrenal gland. This tumor was composed of large fatty tissue, calcification and small soft tissue with the cystic component as well as a mild enhancement in a part of the tumor. The patient was successfully treated with complete resection of the adrenal mass by the thoracoabdominal approach. We should pay attention to it and close follow-up is indispensable on account of the incidence of malignant transformation which is upto 36%.
Keywords: Mature cystic teratoma, Dermoid cyst, adrenal gland, computed tomography.

INTRODUCTION

Teratoma is a germ cell tumor which is derived from totipotential cells and originated from more than 1 and usually all 3 of the primordial germ cells.[1] The most common sites are gonads (testes and ovaries) followed by extragonadal sites. Primary teratomas involving adrenal glands are exceedingly uncommon in adults [2-4]. Only a very few case reports have been documented in literature so far. Herein, we report a case with a huge size and unusual origination of a mature cystic teratoma.

CASE REPORT

A 29 years old woman presented to our hospital with complaint of right flank pain for six months. Her general condition and vitals were within normal range. On abdominal palpation, a huge lump was palpable with mild tenderness in the right upper abdomen. All plasma and urinary adrenal function tests were within normal limit. Serum tumor markers alpha-fetoprotein(AFP), carcinoembryonic antigen (CEA), and CA 19-9 were not raised. A plain and enhanced computed tomography (CT) scan showed an encapsulated huge tumour with a mixed density arising from the right adrenal gland. This tumor was composed of large fatty tissue, calcification and small soft tissue with the cystic component as well as a mild enhancement in a part of the tumour. This huge adrenal mass displaced the left kidney inferiorly[Figure 1]. The patient was successfully treated with Complete resection of the adrenal mass by the thoracoabdominal approach. Grossly, the mass measured 12×11×9 cm, well-circumscribed smooth borders, and rubbery consistency. Cutsection of the mass revealed multilocular cystic spaces, whitish-gray walls, scattered yellowish adipose tissue collections, mucus secretions, areas of calcifications and hair[Figure 2]. Microscopically, the walls were largely lined by respiratory columnar and squamous epithelium with various proportions of mature well differentiated parenchymal tissues derived from all the three germ cell layers. No evidence of malignancy was identified. [Figure 3] A diagnosis of mature cystic teratoma arising from the right adrenal gland was made. During two one years of follow-up, the patient is asymptomatic with no recurrence of a tumor on imaging.

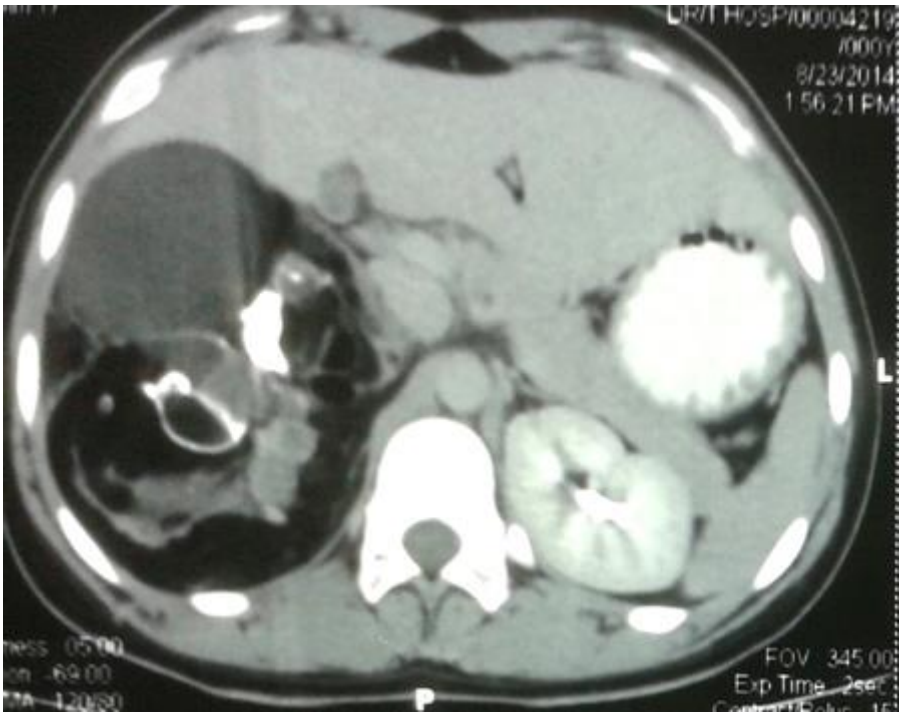

Fig-1: Abdominal contrast-enhanced computed tomography (CT) scan. Cross-sectional view: showing a large lesion in the region of right adrenal gland measuring 12 × 11 × 09 cm and demonstrating multiple cystic spaces with thin septations as well as multiple areas of fatty collections and coarse calcifications

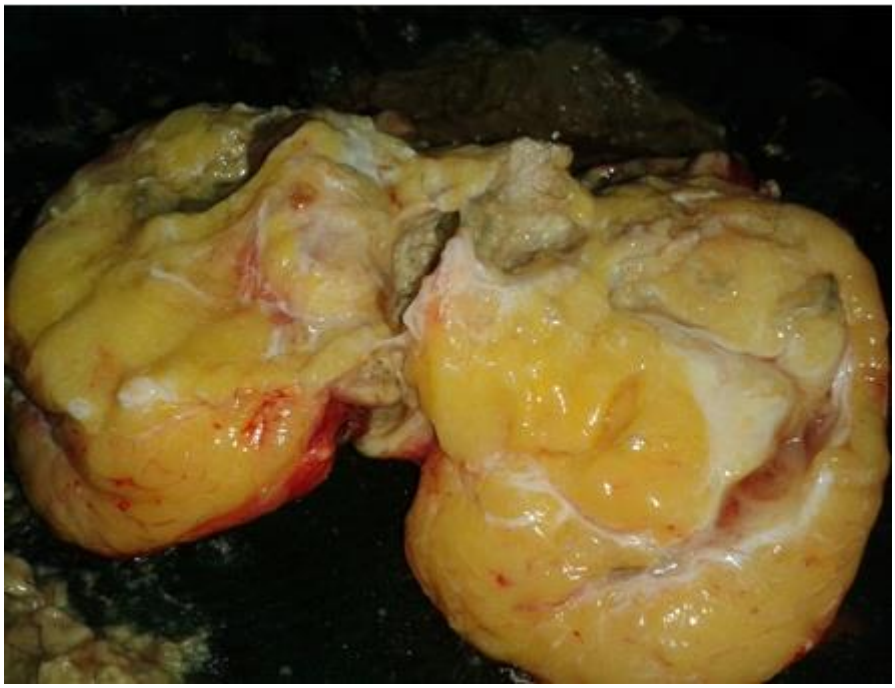

Fig-2: Grossly, cut-section of the resected mass revealed multilocular cystic spaces, whitish-gray walls, scattered yellowish adipose tissues, mucus secretions, areas of calcifications and hair

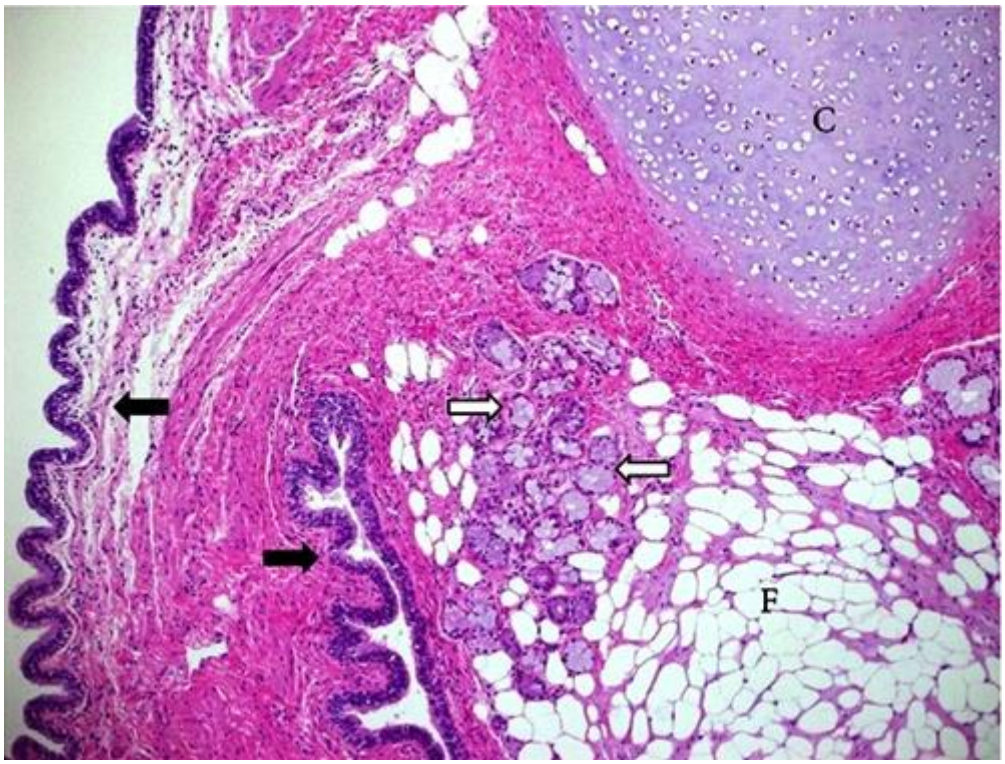

Fig-3: Hematoxylin & Eosin (H&E stain), ×40 magnification: a low magnification image of cystic space lined by mucous-secreting epithelium (solid arrows). The wall is formed by cartilage tissues [C], fat (adipose) tissues [F], and salivary gland tissues (open arrows)

DISCUSSION

Teratomas are encapsulated neoplasms composed of multiple parenchymal tissues that are derived from more than one germ cell layer[3].

According to the location of thetumor, teratomas can be classified into gonadal and extragonadal teratomas. Gonadal teratomas are more common, mostly primary neoplasms and usually, take place in gonads. Conversely, extragonadal teratomas are less common, mostly secondary neoplasms, mainly in infants and young children and usually, take place in sacrococcygeal, mediastinal, retroperitoneal, and pineal gland sites (descending order of frequency) [4].

According to the degree of tumor maturation, teratomas can be classified into mature and immature teratomas. Mature teratomas are generally benign. On the contrary, immature teratomas can be benign or malignant. Some benign teratomas have an increased tendency to become malignant teratomas, known as teratomas with malignant transformation so they need close follow-up [7].

The Primary adrenal teratomas in adults are exceedingly uncommon and can be mistaken for other histologically related lipomatous adrenal neoplasms [4]. Only a few case reports have been documented in literature so far. The Clinical presentations are variable and include asymptomatic to symptoms due to a huge size[8]. Surgical excision of mature teratoma is required for a definitive diagnosis (by histopathological examination) and remains the mainstay of treatment. Prognosis is, fortunately, excellent after complete surgical excision with an overall five-year survival rate of nearly 100%[7-9].

CONCLUSION

Primary retroperitoneal teratoma involving the region of the adrenal gland is exceedingly rare, and its occurrence in an adult is exceptionally uncommon. However, it should be regarded in the differential diagnosis in any patient presenting with a flank pain. Histopathological examination of the resected tumor warrants a definitive diagnosis. Surgical excision of mature teratoma remains the mainstay of treatment with an excellent five-year survival rate of nearly 100%.

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