Benign Cystic Teratoma of the Parotid Gland

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ABSTRACT

OBJECTIVE: 1. A case report of benign cystic teratoma of the parotid gland

METHODS: This is the sixth reported case of a benign parotid teratoid tumor. A fourteen-year-old boy presented with a slowly enlarging left preauricular mass over a six month period. On exam he had a mobile cystic parotid mass just anterior to his left tragus with an associated small preauricular pit. His facial nerve was intact. MRI demonstrated high uptake on T1 but low signal on T2 weighted images with heterogeneous signals. Differential diagnosis included first branchial cleft cyst, angiolipoma or dermoid cyst. The patient underwent a superficial parotidectomy with excision of the parotid mass and the involved external ear canal cartilage.

RESULTS: Pathology was consistent with a benign cystic teratoma, with cartilage noted at one pole of the cyst.

CONCLUSION: Parotid teratoma is a rare germ cell tumor with malignant potential of all three germ layers. Mature cystic teratomas involving the major salivary glands are extremely rare. We present only the sixth reported case of a benign parotid teratoid tumor. A fourteen-year-old boy presented with a slowly enlarging left preauricular mass over a six month period. On exam, he had an approximately 4 cm cystic non-tender mobile parotid mass just anterior to his left tragus with an associated small preauricular pit. Facial nerve was intact bilaterally. MRI with IV Contrast demonstrated a 4 cm cystic mass with intense uptake on T1 weighted images and low uptake on T2 weighted images. Findings were suggestive of a benign parotid neoplasm but differential diagnosis included an angiolipoma, dermoid, first branchial cleft cyst or hemangioma of the left parotid gland. Fine needle aspiration biopsy demonstrated an acellular specimen consistent with cyst contents. The patient underwent a left superficial parotidectomy. The mass was found to be involving the anterior external ear canal cartilage and this was resected en bloc. He did well postoperatively and was discharged home on POD #1. Final pathology was consistent with a benign cystic teratoma, with cartilage noted at one pole of the cyst.

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INTRODUCTION

Mature benign cystic teratomas of the parotid gland are quite rare. This is only the sixth reported case. It was first described in 1975 by Shadid. He reviewed over 11,000 salivary gland lesions contained in the files from the Armed Forces Institute of Pathology at the time and only found one case of a mature cystic teratoma of the parotid gland; thus emphasizing its exceptional rarity. A teratoma is a germ cell tumor derived from pluripotential cells and contains one or more of all three germ cell layers: ectoderm, mesoderm and endoderm.

Microscopically, cystic teratomas of the parotid gland are found embedded within parotid gland parenchyma. The wall of the cyst is often lined with keratinized squamous epithelium with underlining skin adnexa. Teratomas most commonly arise in the ovary or testis and are extremely uncommon in the head and neck region.

RESULTS

Gross examination of the specimen demonstrated an approximately 4 x 2.5 x 2 cm cystic mass. Yellow thick material was noted to occupy the cyst cavity. The cyst wall lining contained normal squamous epithelium and hair follicles as well as mature cartilage.

DISCUSSION

Mature cystic teratomas involving the major salivary glands are extremely rare. It should however be included in the differential diagnosis of cystic parotid lesions. This is only the sixth reported case of a benign parotid teratoid tumor and while it occurs rarely, its diagnosis is made even rarer if not included in one’s differential.

While FNA biopsy in combination with radiologic imaging is not enough to diagnosis cystic teratomas it may be helpful in creating a differential diagnosis. Teratomas typically appear hyperintense on T1 weighted images but hypointense on fat saturated T2 weighted and STIR images.

Superficial parotidectomy is usually advocated for the management of benign parotid masses. Complete safe excision of the teratoma, taking care to preserve the facial nerve, is definitive treatment. While there have been a few previous reports of cartilaginous tissue in cystic parotid teratomas, they have all been noted within the cyst cavity rather than as part of the cyst wall. The surgeon should be prepared to remove part of the external ear canal if necessary for complete excision.

Although teratomas have a theoretical malignant potential, there are no reported cases of malignant salivary gland teratomas.

CONCLUSIONS

Parotid teratoma is a rare germ cell tumor with malignant potential of all three germ layers. Mature cystic teratomas involving the major salivary glands are extremely rare. We present only the sixth reported case of a benign cystic teratoma of the parotid gland and only the first reported case with direct cartilaginous involvement. Benign cystic teratomas present a challenging problem of complete safe excision for the surgeon and proper identification by the pathologist. Cystic teratomas should be included in the differential of a cystic parotid lesion. The surgeon should be prepared to remove part of the external ear canal if necessary for complete excision.

REFERENCES