MATURE TERATOMA ARISING FROM THE ANTERIOR FOSSA IN AN ADULT

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ABSTRACT

Germ cell tumors may be classified as germinomas, which represent approximately two thirds of all intracranial germ cell tumors, and non germinomas, which include embryonal carcinomas, choriocarcinomas and teratomas. Teratoma may be mature (benign) or immature (malignant). Mature teratomas located in the anterior fossa are extremely rare and have benign characters. Nongerminomatous germ cell tumors, especially teratomas and choriocarcinomas, tend to occur in younger children. Mature teratoma in adults is very rare. In this paper we report a twenty-eight years old patient with mature teratoma in anterior fossa and pneumocephaly.


ERİŞKİNDE ANTERİOR FOSSA KAYNAKLı MATÜR TERATOM

ÖZET


INTRODUCTION

Germ cell tumors may be classified as germinomas, which represent approximately two thirds off all intracranial germ cell tumors; and non germinomas, which include embryonal carcinomas, choriocarcinomas and teratomas. Teratomas are congenital tumors that are composed of tissues derived from all three embryonic germ cell layers and represent 0.5% of all intracranial tumors. Teratoma may be mature (benign) or immature (malignant). In most cases, these tumors are located specifically in the sellar and pineal areas. There is no intraventricular air reported in the literature with teratomas. Mature teratomas in anterior fossa located are extremely rare and they have benign characters. Nongerminomatous germ cell tumors, especially teratomas and choriocarcinomas, tend to occur younger children.

In Tapper and Lack’s study, clinical and pathologic features of 254 teratomas from 245 patients are reviewed. Tumors were reported to arise from the following anatomic sites: sacrococcyx, ovaries, head and neck, retroperitoneum, mediastinum, testes, central nervous system, liver and abdominal wall.

We report a case of mature teratoma from anterior fossa and pneumocephaly in an adult patient.

CASE

A twenty-eight year old, male patient presented with severe headache, fainting and vomiting. Neurological and systemic examinations were normal. In the initial evaluation with x-ray, computerized tomography (CT), magnetic resonance imaging (MRI) and three dimensional imaging, a teratoma in the anterior fossa was demonstrated. The plain skull x-ray revealed pneumocephali as well as calcification within the mass (Figure 1). In the cerebral CT, a 4x2.5x2 cm hyperdense mass on the anterior fossa and air in the ventricles were seen (Figure 2). The MRI presented slight hyperintense mass on T1 weighted images and air in the ventricule (Figure 3). 3 Dimensional imaging study showed the relationship between the mass and anterior fossa (Figure 4). Laboratory examination demonstrated no abnormal results. The tumor markers were within normal levels in the serum. Bifrontal craniotomy was performed and the tumor was removed completely with no dural defect. The patient did well, and there were no postoperative neurologic deficits. Tumor was as hard as a bone.

In postoperative CT control, there was no mass or hematoma. Histopathologic examination confirmed a mature teratoma. The specimen contained loci of mature bone, peripheral nerve, and central nervous tissue. On postoperative seventh day, the patient was discharged from hospital. There was no postoperative complications.

DISCUSSION

Teratomas can be classified as mature and immature teratomas depending upon differentiation of tissues within in the tumor. In our case, histopathologic examination confirmed a mature teratoma. Teratomas in
the anterior fossa are rare in the adult population. There is a strong female predominance in those reported.\textsuperscript{7,8} Like other teratomatous tumours, malignant changes tend to occur with increasing age. Total removal of these tumors results in cure.\textsuperscript{9}

Yang et al. reported that the combined modality treatment (including chemotherapy combined with surgery and/or radiotherapy) is highly effective in treating germ cell tumors patients.\textsuperscript{10} Mature teratomas are benign and usually radioreistant.\textsuperscript{11} Berhouma et al. reported a huge mature teratoma of the pineal region in a 10-year-old patient. The tumor was completely resected. No adjuvant treatment was given. During a two-year follow up, the tumor did not show any recurrence.\textsuperscript{12} Our case did not receive adjuvant therapy and performed well after the surgery on the follow-ups with no neurological defects. Total resection, should be the treatment of choice in intracranial teratomas.

In our case, plain skull x-rays showed pneumocephaly as pneumoventriculogram. We have not met such a case in the literature. This paper is a description of a unique approach to resection of a teratoma located in the anterior fossa with pneumocephaly in a twenty-eight years old patient.

REFERENCES