

Congenital cervical teratoma: A case report

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Abstract

Teratomas are malformative tumors derived from multipotent cells and composed of tissues from endodermal, mesodermal and ectodermal layers in varying proportions. The cervical location is exceptional. Through an observation of cervical teratoma in a newborn after a review of the literature, we recall the main clinical, radiological, anatomopathological and evolutionary aspects of this affection. Despite its often benign histological nature, cervical teratoma can threaten the vital prognosis of newborns, due to the respiratory distress it causes. Multidisciplinary and adapted care from childbirth is necessary to improve the prognosis.

Keywords: Germline; Neck; Newborn; Teratoma.

1. Introduction

Cervical teratoma is a very rare germ cell tumor in the newborn. It is often diagnosed antenatally by ultrasound or magnetic resonance imaging (MRI). The anterior location of this tumor and its volume, which is often large, lead in most cases to airway compression. It requires urgent multidisciplinary management to avoid complications related to compression, but also to reduce the carcinological risk [1].

2. Observation

It was a newborn male by cesarean section at 38 weeks of amenorrhea, and a 36-year-old mother. The antenatal ultrasound showed a cervical mass with a cystic component, 65 mm in diameter with hydramnios. At birth, the newborn, who weighed 3900 g, had a large right anterolateral cervical mass, firm and fixed in relation to the different planes (figure 1). With respiratory distress at 2/10, the neonate was placed on 02 3L/min with a saO₂ of 92%, intubation was not considered necessary. The computed tomography (CT) scan (figure 2) confirmed the cystic component of the mass, which measured 100mmx94mmx72mm, with the presence of fatty and calcific components, with mass effect on the aerodigestive tract.

This child was operated at 10 days of life. The dissection was easy, as the tumor was well encapsulated. Anatomopathological examination showed that it was a pluritissular teratoma, with large territories of immature neuroblastic tissue.

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Figure 1 Large right anterolateral cervical mass measuring 10cm in diameter with a hard consistency fixed in relation to the different planes



Figure 2 Coronal section of a cervical CT scan showing a voluminous well-limited latero cervical mass measuring 10cmx9,4x7,2cm mostly cystic with the presence of a fatty and calcific component in favour of a teratoma.

3. Discussion

Cervical teratoma is a relatively rare tumor. Its prevalence varies between 1/20,000 and 1/40,000 [2], they are germline tumors that derive from the 3 primordial sheets: endoblastic, mesoblastic and ectoblastic. Sacrococcygeal teratomas are the most frequent and represent 80% of newborn teratomas, compared to only 3% of cervical localizations [3]. The diagnosis is suspected before birth on ultrasound in the second trimester of pregnancy, which shows a cervical mass with a tissue and cystic component, sometimes with calcifications, as well as hydramnios, which indicates esophageal compression. This examination is usually supplemented by fetal MRI, which provides further clarification and helps to rule out other diagnoses [4]. The most frequent circumstance of discovery is the finding of an anterolateral cervical mass after birth as in our observation [5].

The respiratory symptomatology reported in 60% of cases is mainly represented by respiratory distress, related to airway compression, which can be life threatening, given the difficult intubation conditions [6]. This emphasizes the need for early management. Cervical ultrasound is often sufficient to make the diagnosis. CT, and especially MRI with contrast injection, can clarify the relationship of the tumor, especially with the large vessels of the neck [7]. Differential

diagnosis in imaging is mainly with hemangioma, cystic lymphangioma and congenital goiter. The AFP level is often elevated, but it is difficult to confirm the secretory nature of the teratoma, as there is physiological production of AFP until 1 year of age. Only an increase in the AFP level between 2 determinations or, conversely, a very low level, less than 10 ng/ml, is significant. The AFP assay is mainly used for postoperative follow up. Our patient did not benefit from this assay. The treatment of congenital cervical teratomas is surgical. It must be performed very early, because the tumor may have an unpredictable evolution and may suddenly increase in volume due to intra tumor hemorrhage. The quality of the excision determines the postoperative course; in case of tumor residues, chemotherapy is necessary [8].

Anatomopathological examination is the only examination that allows the diagnosis of teratoma to be made with certainty. The extreme histological polymorphism of these tumors requires multiple specimens to be taken and fine histological sections to be taken in order not to miss an immature or malignant focus, the presence of which determines the prognosis. Macroscopically, teratomas appear as ovoid or spherical masses, sometimes lobulated. The size is usually between 5 and 12 cm. On section, the tumor is usually well encapsulated. It most often presents a heterogeneous cystic and solid appearance (79% of cases). Less frequently, it may be totally cystic (16%) or solid (4.2% of cases). The benign or mature form is the most common, consisting of well-differentiated tissue. Two types of tissue are predominant: thyroid and nerve. The immature teratoma is a potentially malignant form [4,5]. Unlike the previous one, it presents immature derivatives of the 3 sheets embryonic tumors, often isolated within mature tissue, resulting in a mixed teratoma. Cervical teratomas may rarely contain a germline malignant component (yolk sac tumor, choriocarcinoma, embryonal carcinoma). Benign teratomas are definitely curable by complete removal. For immature and malignant teratomas, management is still subject to debate: surgery alone is insufficient, except in localized forms. Complementary chemotherapy is often necessary to increase the chances of cure [6,9,10].

In our case, the treatment consisted in the total surgical removal of the mass, which did not invade the adjacent structures. The anatomopathological study was in favor of a pluritissular teratoma, with large territories of immature neuroblastic tissue.

4. Conclusion

Cervical teratoma of the newborn is a very rare tumor. Its prognosis depends on the rapidity of the management, which must be multidisciplinary as soon as the diagnosis is suspected in antenatal. Treatment consists on complete surgical resection of the lesion.

Compliance with ethical standards

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Disclosure of conflict of interest

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Statement of informed consent

Written informed consent from the patient's parents was obtained.

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