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Cervical Teratoma: About A Single Case

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Abstract

Cervicofacial teratomas are rare developmental lesions, more often benign in their histology. They can lead to respiratory distress and death caused by airway obstruction at birth. Prenatal diagnosis raises on ultrasound examination précising loco regional consequences of the tumor and surgical possibilities. In the propitious cases, prenatal MRI examination is useful to precise tumor's limits and cerebral status of the fetus. At birth, coordinate management involving anesthetists', pediatricians' and specialized surgeons decrease morbidity and mortality. Complete early surgical excision must be managed as soon as possible and planned thanks to TDM end MRI examination

We report 1 case collected in the Pediatric Resuscitation Department, highlighting the lack of prenatal diagnosis, despite improved management of newborns.

Keywords: Teratoma - Antenatal diagnosis-Neonatal surgery.

Introduction

Teratomas are malformative tumors' derived from germ cell transformation. Cervical localization is rare and requires multidisciplinary management. Antenatal diagnosis is essential due to the risk of respiratory distress. It is still rarely performed in our context, and therefore delays the management.

Case report

A newborn female baby, admitted to the hospital on the day of life with a cervical mass, born by the upper/chorioamniotic route, at the end of a normal course pregnancy. History was positive on 2-day PMR, Apgar score was 10-10-10. Birth weight was 3800 g. This was the first child of non-inbred parents with no particular history.

On admission, the newborn was reactive tonic pink, anterior fontanelle normo tense sucking reflex +, weight at 3800 g, capillary blood glucose at 0.6 g/dl, with a FR at 45 cycles per min, heart rate at 150 and a sao2 at 95% at AA, no difference in blood pressure between upper and lower limbs without dyspnea or cyanosis.

The femora pulse was well perceived.

Presence of a renal cervical mass of about 10 cm of non-pulsatile tissue consistency mobile with respect to the deep plane. The laboratory workup came back normal, and the cervical CT scan showed a cervical teratoma.

Figure 1: A later cervical mass in the new neonate.

Treatment consisted of total surgical removal of the mass, which did not invade adjacent structures.

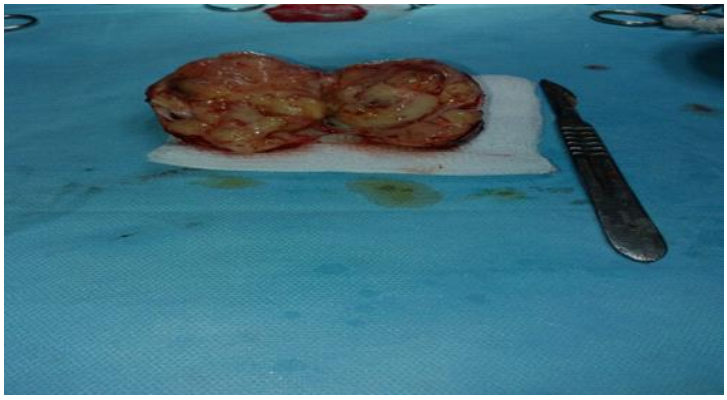

Figure 2: Cervical mass operating piece

The pathology study was in favour of an immature multi-tissue teratoma.

Evolution is good

Discussion

Fetal tumour pathology mainly concerns the soft tissues and is represented mainly by lymphangiomas and sacrococcygeal teratomas. Other tumours (hemangiomas, hamartomas etc.) are much less frequent. Teratoma is the most common congenital tumour.

Teratomas are complex tumours composed of elements of various embryonic origins (ectoblastic, entoblastic, neuroblastic or mesenchymal) and more or less differentiated. They result from the proliferation of totipotent cells, capable of giving rise to different types of tissue, foreign to the region in which they develop, and organised in an anarchic manner. Their appearance varies according to the size and degree of heterogeneity and maturation of the tissues of which they are composed [1].

Teratoma of the cervico-facial region is a rare and in the vast majority of cases benign and isolated. This pathology has been the subject of a relatively small number of publications. Cervical teratoma was first described in 1856 [2]. Between 1929 and 1950, Saphir and then Bale reported 32 and 26 observations respectively [2,3]. From 1960 onwards several series were published with limited numbers (one to four observations). In 1988, Jordan reported 217 cases referenced in the world literature [4]. ENT forms account for about 5-10% of teratomas of the newborn and develop preferentially in the cavum or neck. They are rarely lateral extensions of deeper tumours [5].

Its incidence is estimated at 1/20,000- 1/40,000 births. Approximately 40% are localized in the sacrococcygeal region. The cervicofacial topography accounts for only 3-9% of teratomas. The other locations at the fetal cephalic pole are exceptional and their incidence is not quantified [6].

Diagnosis is suspected before birth on second trimester ultrasound, which objectively shows a cervical mass with a tissue and cystic component, sometimes with calcifications, as well as a hydramnios as a control for esophageal compression. This examination is usually supplemented by a fetal MRI, which provides more detail and eliminates other diagnoses [7].

Unfortunately, in our context, it is still rarely performed, and the diagnosis is only made at birth.

At birth, these are often very large tumours that distort the cervical relief. Anteriorly located, they can compress the cervical organs, mainly the trachea, and cause neonatal respiratory distress that is sometimes difficult to control, hence the importance of antenatal diagnosis and multidisciplinary management. Depending on the tumour

volume, a vaginal delivery, a caesarean section or even a caesarean section with "EX-utero Intrapartum Treatment" (EXIT) procedure will be proposed. This surgical procedure allows uteroplacental circulation to be maintained for a few minutes after Caesarean section to ensure that the obstructed airway remains free (8, 9). Cervical ultrasound is often sufficient to make the diagnosis. CT scan, and especially MRI with injection of a contrast agent, can clarify the relationship of the tumour, particularly with the large vessels in the neck (7, 10). The main differential diagnoses are cystic lymphangioma and hygroma [11].

AFP levels are often elevated, but it is difficult to assert the secretory nature of the teratoma, as there is physiological production of AFP up to the age of 1 year. Only an increase in the AFP level between two doses, or, conversely, a very low level of less than 10 ng/ ml, is significant. AFP dosing is mainly used for postoperative follow-up.

The treatment of congenital cervical teratomas is surgical. It must be carried out very early [9]. The quality of the resection determines the postoperative outcome; in case of tumour residues, chemotherapy is necessary, based on platinum salts and other drugs [12].

In the case of our study, fortunately, there were few or no respiratory signs, making it easier to manage. At birth the CT scan allows a good study of the tumour, the presence of calcifications, its characteristics and its relationship with organs and vessels. The check-up was completed by biopsy of the mass after total removal of the mass, which returned in favour of an immature multitissue teratoma.

2 cases collected at the paediatric surgery department of the CHU HASSAN II Hospital in Fez [13], and 2 cases at the gynaecology and obstetrics department of the Farhat Hached Hospital in Sousse, 4002 Sousse, Tunisia [14], highlighting the fact that there is still a lack of antenatal diagnosis, despite improvements in the care of newborns. Neonatal cervicofacial teratomas are usually benign tumours; indeed, only less than 5% of neonatal malignant cervicofacial teratomas have been reported, including about 20 cases of malignant and metastatic neonatal teratomas [15-16].

The severity of cervicofacial teratomas is related to their size and location, which can be life-threatening due to airway obstruction resulting in life-threatening neonatal respiratory distress. The prognosis is clearly improved by early diagnosis and especially prenatal diagnosis, allowing appropriate management at birth. It is generally benign in the newborn [17].

Conclusion

Cervical teratoma, is a rare localization. The treatment is surgical. Antenatal diagnosis allows better management of these patients because of the risk of respiratory distress at birth by compression. The prognosis depends mainly on respiratory signs, and whether or not there is malignancy.

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