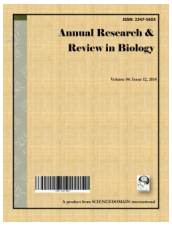

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Facial Teratoma in the Newborn: Diagnosis and Prognosis

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Authors' contributions

This work was carried out in collaboration between all the authors. Authors NBJ and AM conducted the collection and development of the observation. Authors RA and NBJ involved in writing the article. Authors SK, KN and AM involved in collecting and reviewing the bibliography and proposing recommendations in writing the article. Authors FA, NL and RA involved in writing the article and translating it into English. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Facial teratoma is an extremely rare germinal tumor in newborn babies. It is often diagnosed antenatally by means of ultrasound and even MRI.
The prognosis of this tumor depends mainly on the size and the location of the lesion (eye, respiratory and digestive tracts). Multidisciplinary examination is needed to ensure the newborn's survival. Pre-operative conditioning is needed to avoid complications and carcinogenic risks.
The aim of this article is to Specify the anatomical features of facial teratoma and consider the interests of foetopathology review.

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We report a male baby, prematurely born at 28 WA dead at hour 23. Physical examination reveals a frontal mass on the left side of the face plus a facial dysmorphia. Dissection shows hyperplasia of lungs, hypertrophied liver and a splenomegaly. Histological examination reveals neural tissue associated with areas of cartilage and hair; hence the diagnosis of congenital teratoma of the face. Antenatal diagnosis of congenital teratoma of the face is very crucial allowing a multidisciplinary care involving obstetricians, neonatologists, surgeons and anesthesiologists.

Keywords: Facial teratoma; diagnosis; antenatal; prognosis; foeto pathology.

1. INTRODUCTION

Facial teratoma is an extremely rare germinal tumor in newborn babies. It is often diagnosed antenatally by means of ultrasound and even MRI [1,2,3].

The prognosis of this tumor depends mainly on size and location of the lesion (eye, respiratory and digestive tracts). Multidisciplinary examination is needed to ensure the newborn's survival. Pre-intervention conditioning is needed to avoid complications and carcinogenic risks [4,5,6,7].

1.1 Aim

Specify the anatomical features of facial teratoma and consider the interests of foetopathology review.

2. CASE REPORT

Male baby, prematurely born at 28 weeks, delivered by cesarian section for chorioamniotitis, Death at 23 hours postpartum. This is a non-consanguineous marriage, mother aged 36 gravida 1, para 1, no medical history, absence of medication of the mother or the father and no accident during pregnancy. Pregnancy very poorly followed, which did not allow to diagnose the disease at an early term of pregnancy. Physical examination reveals a frontal mass on the left side of the face plus a facial dysmorphia (Fig. 1). Dissection shows hyperplasia of lungs, hypertrophied liver, a splenomegaly and a frontal tumor about 4 inches in diameter, soft consistency (Fig. 2). Histologic examination reveals Monodermal teratoma, neural tissue associated with areas of cartilage and hair; Without histological signs of malignancy. Hence the diagnosis of congenital teratoma of the face.

3. DISCUSSION

Teratomas are germinal tumors showing tissue from all 3 germ layers which are: Endoderm, mesoderm and ectoderm. The most frequent type of teratoma in the newborn is sacrococcygeal teratoma which accounts for 80% of cases. 2% to 9% of teratomas are located in the head and neck [2,6].

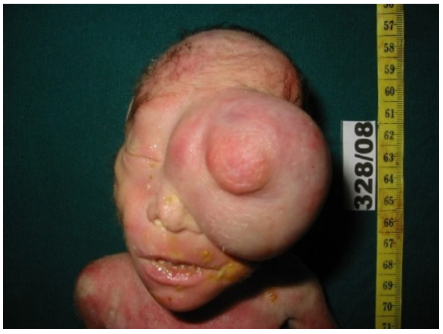

Fig. 1. Retro-orbital tumor, Cranio-facial dysmorphia: Flat nose, thin lips, retrognathia, large low setted ears

Antenatal diagnosis is possible by ultrasound, which allows us to plan specialized management of the child to be born; but in our case it was a poorly followed pregnancy [3].

The prognosis of this tumor depends mainly on size and location of the lesion.

Teratomas can be divided in 3 categories [8,9,10]:

- Mature (benign).
- Immature (malignant).
- Monodermal: This type of tumor contains differenciated cells producing mature tissue in an inappropriate location, often different from surrounding tissues. This is the case of the teratoma diagnosed in our newborn child.

Facial location is a differential diagnosis to encephalocele which only contains brain tissue.

Prenatal Karyotype and searching for associated abnormalities is obligatory in all teratomas [2,11].

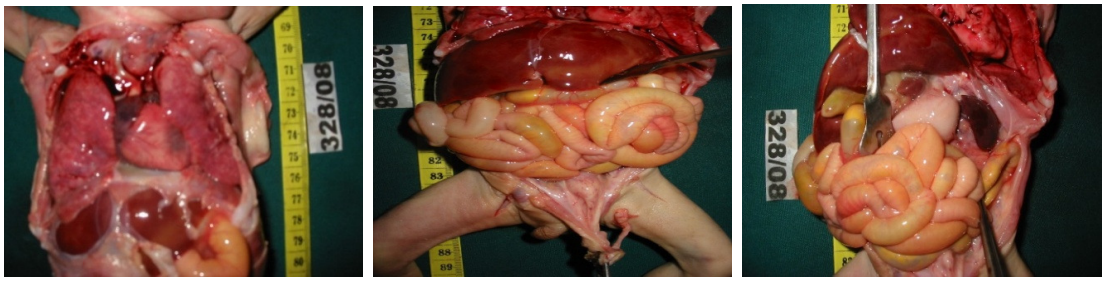

Fig. 2. Hyperplasia of lungs (MAKP III histologic examination); Hepatomegaly and splenomegaly

Besides the delivery should include cesarean section with ex utero intrapartum resection of the tumor mass, which may be performed on a placental support operation to increase post natal survival [3,4,5].

A systematic review reported that 3D ultrasound and MRI may enance the the accuracy of the antenatal diagnosis and may ease the selection of newborns requiring treatment [1,9,6].

Multidisciplinary examination is needed to ensure the newborn's survival. Pre-operative conditioning is needed to avoid complications and carcinogenic risks [7].

4. CONCLUSION

Teratomas represent less than 7% of all infantile tumors [12]. A review of the literature shows that women are twice as affected as males [1,12]. The face is an exceptional site. A teratoma is a congenital tumor from the 3 layers of germ cells [8,9,12]. The cases described in the literature are often cytological benign [1,11,12]. In some cases of large tumors, serious complications can occur, even neonatal death.

After a review of the literature [1-12], the diagnosis of these rare cases of teratomas is possible in antenatal by ultrasound. The prognosis depends essentially on the histological nature, the site and size of the tumor. Generally favorable after surgical treatment and multidisciplinary care; but can be severe with neonatal death in other cases.

CONSENT

Parents' informed consent for eventually publish the information for Scientific aims was obtained.

ETHICAL APPROVAL

All authors hereby declare that all experiments have been examined and approved by the ethics committee of the Maternity and Neonatology Center of Tunis (approval number /reference: 00018/17) and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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