Large Teratoma of the Placenta

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Citation

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Abstract

Placental teratoma was first described in 1925. It is a rare non-trophoblastic tumour occurring in women of childbearing age. It is usually the size of a hazel nut and composed of tissue arising from the three germ layers. The main differential diagnosis is fetus acardia amorphous. The proposed hypotheses of their occurrence are “included-twin hypothesis,” and “germ cell theory”. To date there are only 24 reported cases in the literature. We report a case of large teratoma of the placenta in a 26-year-old primigravida.

NOTE

This finding was presented in IFPA 2008 meeting/ 12th EPG Conference in Austria and abstract was published in the journal of PLACENTA (volume 29).

INTRODUCTION

Placental teratoma was first described by Morville P in 1925 as a hazel nut size tumour located in the fetal membrane, between the amnion and chorion. [1] It is a benign non-trophoblastic tumour composed of mixture of epithelial, adipose, skeletal and connective tissue. Other tissue such as disorganized bone and cartilage, as well as glial tissue may also be present. It is usually asymptomatic but may leads to fetal asphyxia at very large size. To date there are only 24 cases reported in the literature.

CASE REPORT

CLINICAL HISTORY

A 26-year-old Malay female, G1 P0, presented to us at 31 weeks of pregnancy with abdominal pain after riding on a motorcycle. However, there was no uterine contraction, decreased fetal movement or per vaginal bleeding. There was no relevant past medical or surgical history. She weighed 44.5 kg (non-pregnant) and 56 kg (pregnant). Her blood pressure was 110/74 mmHg.

BIOCHEMICAL INVESTIGATIONS

Her blood group was O +ve. Her biochemical investigations were normal which include the blood sugar (4.1/5.9 mmol/L) and hemoglobin (11.4 gm/dL). VDRL, Hepatitis B and HIV screening were negative.

RADIOLOGICAL EXAMINATION

Ultrasound examination of the abdomen revealed a solid cystic mass attached to the placenta but separated from the fetus. The mass measured 7.8 x 3.8 cm.

OBSTETRIC HISTORY

At 39 weeks of gestation, she gave birth vaginally via vacuum assistance to a healthy baby boy weighing 2500 grams. The Apgar scores were 8 and 9 at 1 and 5 minutes.

HISTOPATHOLOGICAL EXAMINATION

Gross examination showed a mass attached to the placenta which was arising within the fetal membrane. The mass measured 8.5 x 7.5 x 5 cm and has a cleavage at the center separating it into 2 ovoid structures. It was covered by well-formed skin with presence of hair (Figure 1). Cut section showed cystic and solid areas (Figure 2). The cystic spaces were filled with clear fluid and the wall thickness measured 0.1 to 0.2 cm. The cut surface of solid area was yellowish and glistening. The placenta appeared unremarkable with presence of an umbilical cord.

Figure 1

Figure 1. Mass attached to the placenta. It was covered by skin with presence of hair.

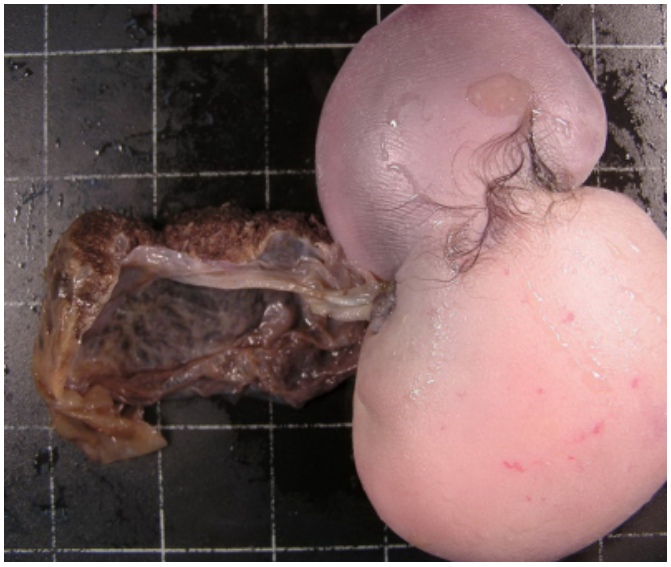
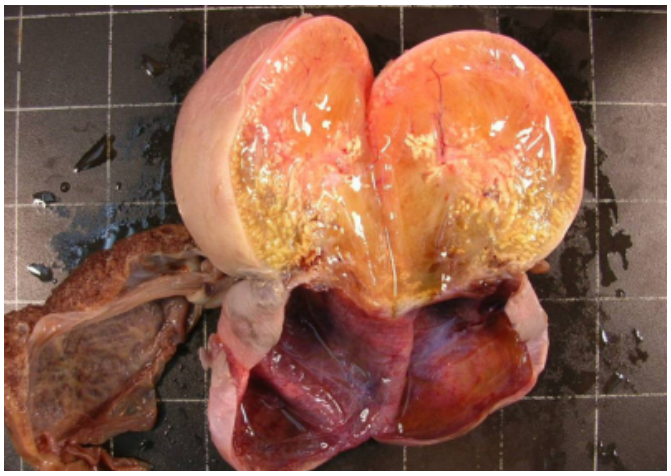


Figure 2

Figure 2. Cut section of the mass showed cystic and solid areas



Microscopic examination revealed cyst wall which was lined by stratified squamous epithelium with underlying dermis and skin adnexal like sebaceous glands and hair follicles (Figure 3). The solid mass was composed of myxoid dermis, adipose tissue, nerve bundles and blood vessels (Figure 4). There was no organised bony skeleton, lung, brain, liver, intestine and genitourinary structures. The placenta was histologically unremarkable.

Figure 3

Figure 3. The mass was lined by keratinising stratified squamous epithelium (HE, x40)

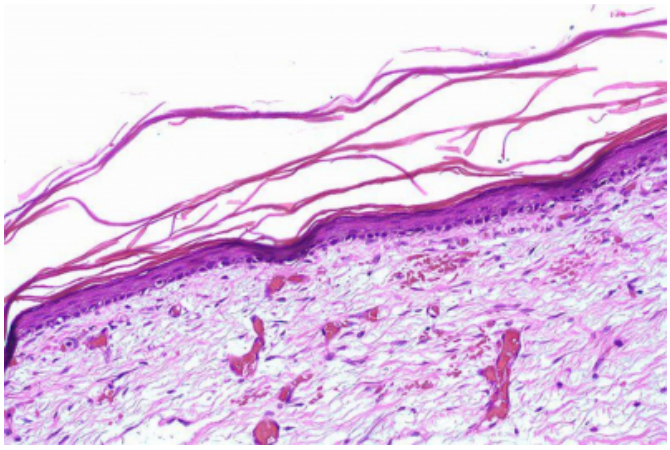
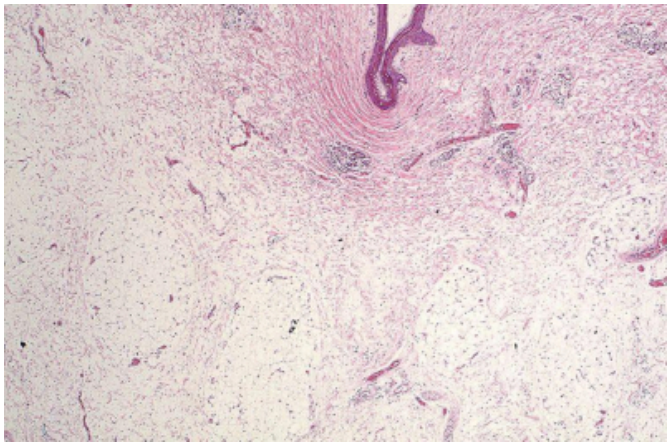


Figure 4

Figure 4. The solid part of the mass was composed of mixture of adipose tissue, fibrous tissue and blood vessels. (HE, x20)



DISCUSSION

Teratoma of the placenta was reported as a nut sized solid tumour in the fetal membrane with arranged size of 2 to 4 cm in diameter. It is a rare, non-trophoblastic tumour composed of mixture of epithelial, adipose, skeletal and connective tissue. Most of the tumours were located between the amnion and chorion layer. All reported cases were benign, there was no immature teratoma of the placenta ever reported. Other primary non-trophoblastic tumours of the placenta include chorioangioma and smooth muscle tumours.

The proposed hypotheses are “included-twin hypothesis,” and “germ cell theory”. [23] In the former hypothesis it suggests that teratoma originates from a twin fetus, whereas the later suggests that during early stages of embryogenesis,

the primitive gut evaginates and migrate up to the fetal membranes and develop into a teratoma. However these were being question by others. Due to the rarity of this tumour, evaluation of large series is difficult. This tumour has to be differentiated from fetus acardia amorphous. The absence of skeletal organization and umbilical cord were criteria to make a diagnosis of teratoma.

Akimov described a case of large teratoma resulted in fetal asphyxia which was possibly due to mechanical compression. [4] Although the teratoma in our patient was quite large, there was no complication both during antenatal and parturition. Fox also described a case of teratoma measuring 7.5 cm in diameter which was similarly did not cause any complicated. [2] We recommend that if the tumour is more than 10 cm by ultrasound examination, close antenatal follow up and intra-partum observation are require, in view of the possibility of fetal asphyxia.

References

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