IMMATURE PLACENTAL TERATOMA

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ABSTRACT

A 26 years old unbooked lady, G6P5, presented to labour room of Department of Obstetrics and Gynaecology, Lady Reading Hospital Peshawar with 31 weeks pregnancy and preterm labor. Patient was pale looking with BMI of 20kg/m^2. Her blood pressure, pulse rate, temperature and respiratory rate were normal, systemic examination revealed normal findings, Symphysiofundal height was 36cm, baby was lying longitudinally, cephalic, liquor was increased and fetal heart were not audible. She had not done any blood or urine investigations throughout her pregnancy, the only time she visited a doctor was for an ultrasound which showed that baby is having meningocele. She delivered a dead baby of 2kg with meningocele, Delivery of baby was followed by delivery of a large, ovoid firm mass with lobulated smooth surface, the time interval between delivery of baby and mass was 4 minutes, five minutes later placenta was delivered.

On examination placenta was complete. The other mass was grayish brown, nodular measuring 16×12×10cm. Its cut surfaces showed grayish white and grayish brown multiloculated areas.

Microscopic examination showed multiple fragments of necrotic poorly fixed tumor having morphology of an immature (malignant) Teratoma. Prominent immature neoplastic neuroepithelial elements with true and pseudorossette formation were seen mixed with other mature and immature ectodermal and mesodermal origin tissue. No placental tissue was seen. It was grade III immature malignant placental teratoma. The major differential diagnosis is fetus acardius amorphus. This reported case is first of its kind, till date all previously reported cases were of benign mature placental teratoma.

Key Words: Placenta, Teratoma, Fetus acardius amorphus.

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INTRODUCTION

Placental teratoma is a rare tumor. The first case of placental teratoma was reported by Morville[1] in 1925. Various theories have been put forward regarding the histogenesis of this tumor, of which the 'Germ cell theory' has been most widely accepted. It has to be differentiated from fetus acardia amorphous.

A teratoma is a neoplasm, made up of different type of tissue, none of which is native to the area in which it occurs. It contains structures which are derivatives of all three germ layers. Teratoma of the placenta is a rare non trophoblastic benign tumour. Placental teratomas are thought to arise from germ cells, which migrate from the dorsal wall of the yolk sac[2]. Teratomas derived from germ cells occur in the testes in men and ovaries in women.

It is considered as benign tumor with no adverse effect on fetus or mother. Till date all reported cases are of mature teratoma, this case report is 1st report of grade III immature placental teratoma based on Prominent immature neoplastic neuroepithelial elements with true and pseudorossette formation mixed with other mature and immature cells, and tissue elements of all three germ layers were seen.

CASE REPORT

A 26-year old lady presented at 31 weeks of pregnancy with preterm labor with uterine contractions of 3 in 10 minutes .This was her 6th pregnancy with all previous normal deliveries at term. Patient was unbooked with no antenatal visit but an ultrasound was done which showed anomalous baby with meningocele. Patient was pale,with normal blood pressure, pulse rate of 90 beats per minutes. BMI was 20kg/m2.Systemic examination was unremarkable. On abdomenal examination,

Symphysiofundal height was 36cm, baby was lying longitudinally,cephalic,liquor was increased and fetal heart were not audible(ultrasound confirmed a dead baby with large meningocele with Polyhydramnios).she had regular uterine contractions of 3/10 minutes,on vaginal examinations she was in early labour.

Patient blood group was O+ve, no immunization against rubella was done. There was no relevant medical history or family history. Haemoglobin was 8.5gm/dl, random blood sugar of 5.1mmol.urine analysis was normal.

The mother was in labour for 8 hours and advanced normally through all stages, she gave birth to a dead female baby of 2kg with large meningocele. Delivery of baby was followed by delivery of a large, ovoid firm mass with lobulatedsurface,the time interval between delivery of baby and mass was 4 minutes,five minutes later placenta was delivered.

On gross examination placental disc was complete with intact placental membranes and marginally inserted umbilical cord with three blood vessels, placenta weighted 592g.

On gross examination the other mass was grayish brown, nodular measuring 16×12×10cm.the cut surfaces showed grayish white and grayish brown multiloculated areas (Figure 1).

Microscopic examination showed multiple fragments of necrotic poorly fixed tumor having morphology of an immature (malignant) Teratoma. Prominent immature neoplastic neuroepithelial elements with true and pseudorossette formation were seen mixed with other mature and immature ectodermal and mesodermal origin tissue (Figure 2). No placental tissue was seen. It was grade III immature malignant teratoma.

All the reported cases till date are of mature teratoma, this case is 1st of its kind to report immature malignant teratoma.Regular patient follow up with Doppler ultrasound shows no abnormality in uterus and its blood flow.No evidence of invasion or metastasis seen.

Figure 1: Placental teratoma

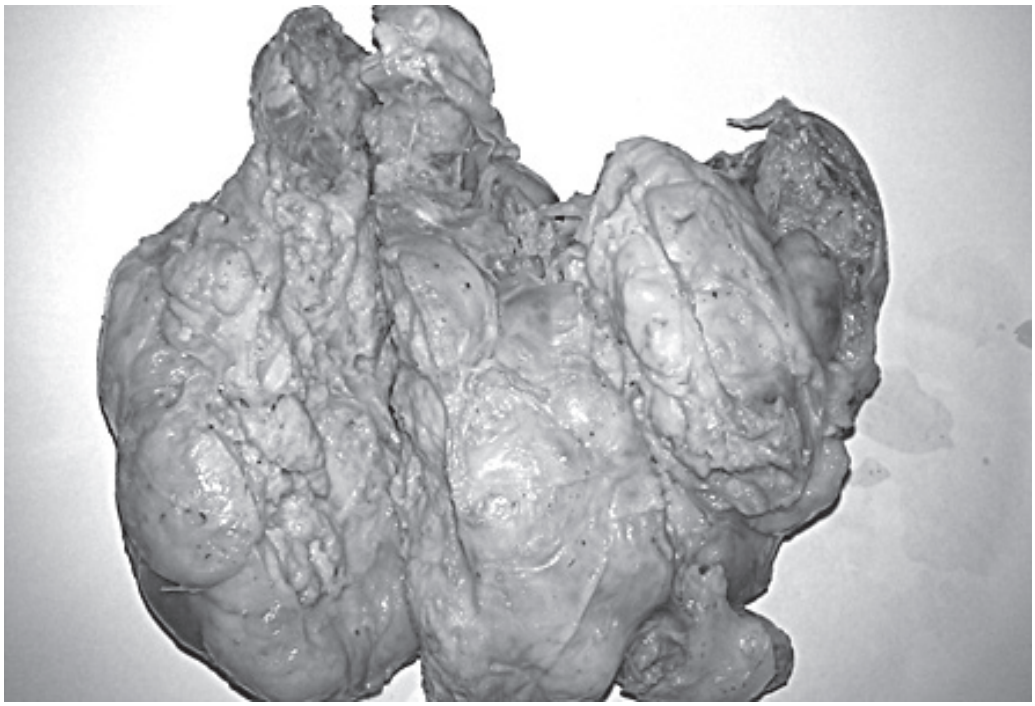
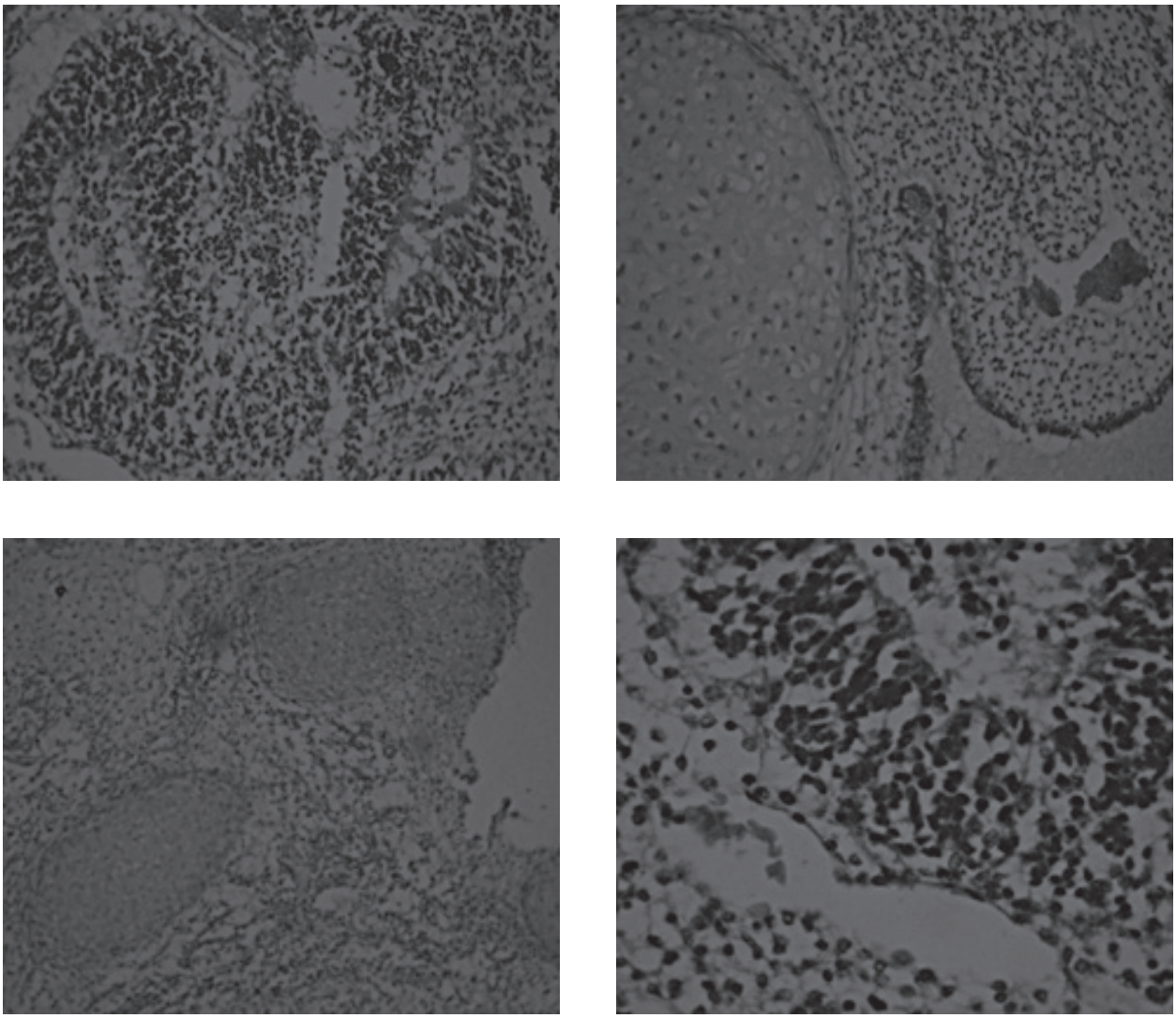


Figure 2: Slides of placental teratoma showing excessive mitotic activity and cells of all three germ line origin



DISCUSSION

The first reported case of placental teratoma was reported in 1925[1]. Since then fewer than 30 cases have been reported. This paper reports the first case of these rare tumors in Pakistan.

Placental teratoma is a rare tumor, its usual location is between amnion and chorion. Placental teratoma is a true tumor[3]. The origin of placental teratoma is obscure but germ cell theory is widely accepted[2], According to this theory, in the early stages of embryogenesis, the primitive gut evaginates into the umbilical cord, during which time primordial germ cells from the primitive gut migrate through the gut wall and are deposited in the connective tissue of the cord and eventually pass into connective tissue between amnion and fetal surface of placenta. These tumors contain elements derived from multiple germ cell layers[4, 5].

Features that distinguish them on sonography and allow their differentiation from other placental tumors have not been fully described. Prenatal recognition of this tumor is prognostically useful because, unlike other neoplasms, placental teratoma is benign and almost never associated with congenital deformities in the fetus[6]. However in this case it was associated with congenital anomaly and was malignant on histopathology.

These placental teratoma may not always present as a separate mass, in one case report it was attached to surface of placenta, and was differentiated on histopathology[7].

The major differential diagnosis is from fetus amorphous, which a blighted fetus arising from a multiple pregnancy. The main distinguishing features of the fetus amorphous are the presence of some growth organization with central skeletal development and with partial or complete formation of vertebral column, Second differentiating feature is a separate, poorly developed umbilical cord which is either attached to the placenta or to its twin, or to a separate placenta[8].

The reported case is classified as grade 3 which is highly malignant. Because of rarity of condition there is no literature available on its management. This patient is regularly being followed up, her blood tests for complete blood count, renal and liver function tests, chest X-ray and uterine artery Doppler ultrasound were carried out monthly for three months and all the investigations were normal, Now 6 monthly follow up is planned for next year.However no management protocol can be based on single case, more cases are required to be enrolled and followed up to set up the management plan for this highly malignant yet localized tumor.

CONCLUSION

Placental teratoma was considered to be a benign tumour with no harmful effect on mother or fetus, but this case highlighted that it can be malignant, Histopathology of all suspicious looking masses delivered with placenta should be encouraged and regularly carried out to find more about these cases, diagnosis of such cases will lead to follow up of these patients and help us in formulating a management plan.

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