Teratoma of the placenta

A case report

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INTRODUCTION

Primary nontrophoblastic tumors of the placenta are fairly rare, the most common the chorioangioma, having an incidence of about 1% ([3]). Placental teratomas are extremely rare, with only six examples recorded until 1978 ([3]) and none reported in the literature since then. The following case report describes the clinical and pathologic finding, in an example of this curious tumor and reviews possible mechanisms of pathogenesis.

CASE REPORT

The patient, 26-years old (gravida 3, para 3) was at 41 weeks of pregnancy. She was admitted to the hospital, for induction of labor. After the use of PGE_2 1 mg, she delivered a 3220 g normal female infant.

The placenta weighed 520 g, with the placental disk measuring 15.1 × 14.2 × 3.4 cm. Te fetal surface was smooth, with a well-developed vascular pattern. Multiple sections of the placenta revealed a rubbery yellow-tan mass, 2.5 cm in greatest dimension, near one lateral border, situated beneath the fetal membranes.

Microscopic examination of this mass revealed skin, hair follicles and other skin appendages, along with fat, tone, and a morphologically normal focus of intestinal epithelium (Table 1 *a, c*). Interestingly, although the fetal membranes were freely moveable over the tumor, at the edge of the mass there appeared to be direct continuity between amnion and squamous epithelium of the skin portion of the tumor.

A diagnosis of placental teratoma was made.

DISCUSSION

Placental teratomas are rare tumors, with Fox reporting only six cases from 1925 to 1928 ([3]). A literature search through the Index Medicus failed to reveal any additional examples of this unusual condition from 1978 to the present. All of the previous reports have been similar, with the tumors generally between the chorion and amnion, smooth, round or oval and between 2.0 cm and 7.5 cm in diameter (4-9) (Table 2). Comparison reveals that all tumors have demonstrated normal skin, nearly all contain mature fat, and other tissue types are present in varying proportions. They thus contain the usual complement of tissue types found in teratomas elsewhere in the body.

They have been found in mature placentas at the time of delivery and have

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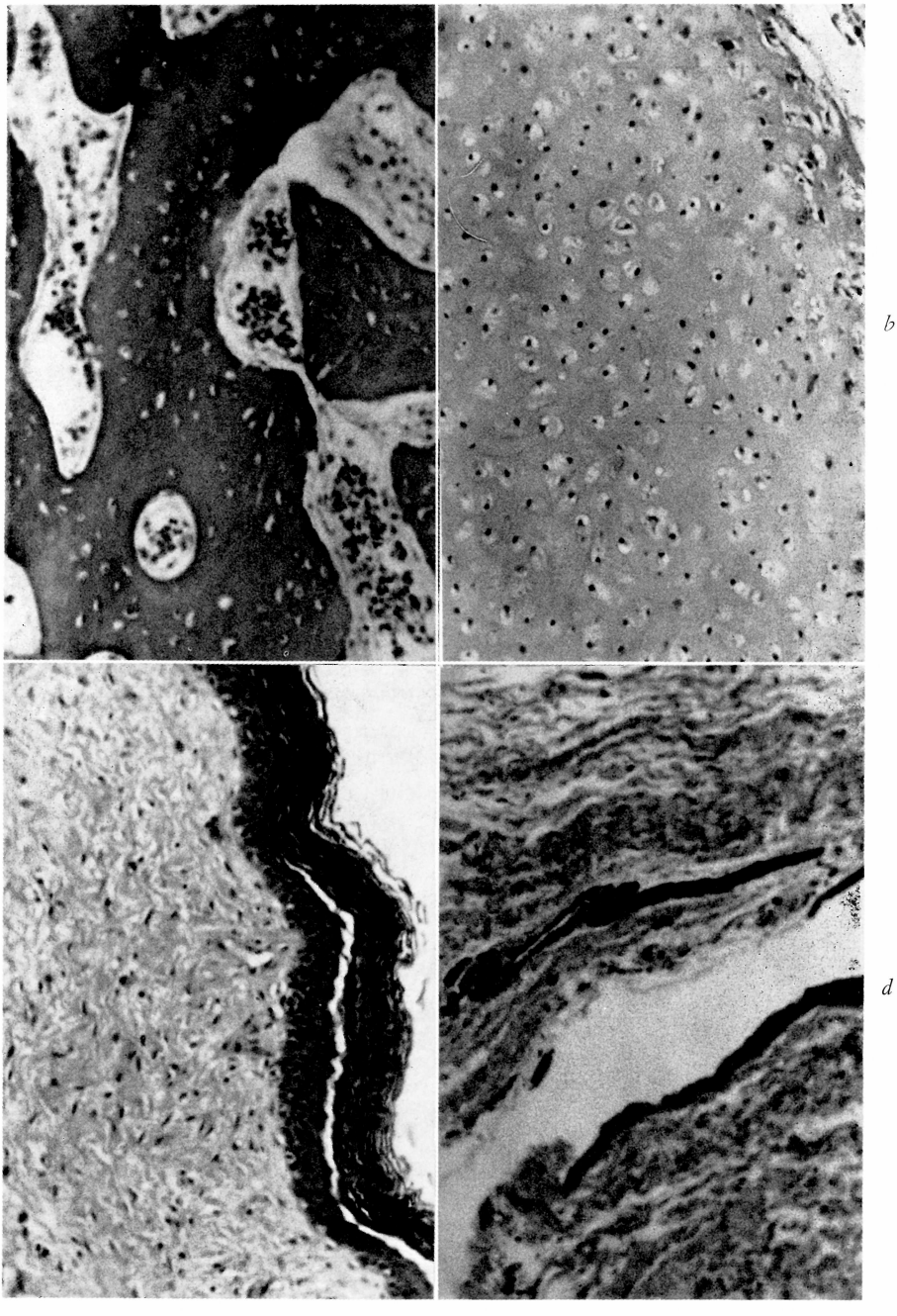

Table 1. — fig. *a*. Focus of bone formation, section from deeper portion of the tumor; fig. *b*. Placental tissue showing mature skin with normal appendages; fig. *c*. Surface of placental tissue showing mature skin; fig. *d*. Focus of epithelial pigmenting type.

Table 2. — *Morphologic findings in placental teratomas.*

Reference	Weight	Tumor size	Tissue type
Morville [8]	600 g	NS	Skin, fat, intestine
Kuster [7]	400 g	"Walnut size"	Skin, cartilage, bone, muscle, nerve, glands
Perez *et al.* [9]	1.000 g	NS	Skin, fat, nerve
Fox and Butler-Manuel [4] . .	460 g	7.5 cm	Skin, fat, cartilage
Fujikura and Wellings [5] . .	540 g	3.0 × 1.4 × 1.2 cm	Skin, fat, smooth muscle, nerve, intestine, lymphoid, follicles
Joseph and Vogt [6]	425 g	2.0 cm	Skin, fat, nerve, intestine
Present case	520 g	15.1 × 14.2 × 3.4 cm	Skin, fat, bone, nerve

been generally assumed to be of no clinical significance, although Fuikura and Wellings [5] reported a teratoma associated with a severely malformed infant. No malignant features were noted.

Teratomas represent an interesting anomaly in placental development, probably resulting from abnormal migration of germ cells from the dorsal wall of the yolk sac. These cells migrate through the umbilical cord before arriving in the placenta, and teratomas of the umbilical cord have been reported [3].

A second hypothesis is that these lesions are actually examples of fetus acardius amorphus [2], an explanation favored by Benirshke and Driscoll [1]. Fox, however, believes the entities can be differentiated on two grounds: 1) fetus acardius amorphus has a separate umbilical cord; 2) fetus acardius amorphus usually displays some axial development so that cranial and candal ends can be identified; the vertebral column is usually present; and ribs, pelvis, and base of skull can be seen in degrees of development and not seen in teratomas.

It is interesting that the tumor reported by Fujikura and Wellings [5] had a short stalk, perhaps analogous to an umbilical cord. However the degree of organization suggested that this was a true teratoma and not a fetus amorphus.

In summary, true teratomas represent examples of probable aberrant migration of germ cells from the yolk sac to the placenta. They are composed of mature adult tissue, most often skin and fat with varying amounts of other tissue, and from descriptions in the literature appear to be fairly similiar. They are probably of no clinical significance although one report couples a teratoma with a severely malformed infant. Lastly, they must be differentiated from fetus acardius amorphus, and this can be done on both gross and microscopic grounds.

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