

## Chorangioma placentae

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chorangioma can often grossly be confused with infarct or intervillous thrombus. Being classified as an hemangioma, its histological appearance is variable et pleomorphic. It could be divided into endotheliomatous, capillarious, cavernous and fibromatous form, from which the capillarious is the most common of all chorangiomas. Chorangiomas probably arise as malformations of the primitive angioblastic tissue of the early placenta. Immunohistochemically, the tumor cells show focal staining for cytokeratin 18, a finding that suggests origin from blood vessels of the chorionic plate and anchoring villi.<sup>7</sup> The clinical significance of placental chorangiomas is related to the size of the tumor. Small chorangiomas, which represent the majority of cases, are of no clinical importance. Those larger than 5 cm or multiple are usually accompanied by a variety of complications affecting the mother, the developing fetus or the neonate.<sup>8,9</sup> An antenatal diagnosis of placental chorangioma, especially those large enough to be of clinical significance is possible by ultrasonography.<sup>10</sup>

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### Abstract

Chorangioma of the placenta is a rare tumor with a frequency of about 1%, which usually presents as a solitary nodule or, less frequently, as multiple nodules. It is found on the fetal surface of the placenta or in placental parenchyma. Most chorangiomas are small and possess no clinical significance. On the contrary, clinically significant chorangiomas, greater than 5 cm or multiple, may be associated with pregnancy complications. The case presented is one of the uncommon presentations of chorangioma, in which its presence and size were not related to a pregnancy disorders or developmental anomalies of the fetus.

### Introduction

Chorangioma placentae was considered as a rare tumour of placenta, but in the recent literature its frequency is about 1%.<sup>1</sup> The rate of their occurrence rises almost linearly with maternal age: chorangiomas are found most often in women who are over 30 years old. They are often found in primipara and twin pregnancies. Hypertension and diabetes are found more often in combination with chorangiomas than they are in otherwise normal pregnancies.<sup>2</sup> Large placental chorangioma may be associated with various type of fetal pathology, like heart failure, hydrops fetalis and sudden intrauterine fetal death.<sup>3,5</sup> Grossly, chorangioma is well circumscribed. It can protrude on the fetal surface of placenta or can be small intraplacental lesion. Placental

### Case Report

We have observed chorangioma as an incidental finding during the routine macroscopic examination of the placenta of the 30 year pluripara whose pregnancy was clinically normal. She was admitted to the hospital for labour at 41 weeks of gestation. Pregnancy, labor and delivery were uncomplicated. She was delivered of a healthy female child measuring 52 cm, 4050 g, with Apgar score 1'=9, 3'=10. Placenta measured 19:19:2,3 cm, 750 g, with centrally attached umbilical cord and radially distributed alantoic blood vessels. Solitary, ovoid mass was observed on the fetal side of the placenta, measuring 7 cm in greatest diameter with soft and dark, red-tan cut surface (Figure 1, 2). Microscopically, the chorionic villi were regular in shape, with fibrovascular stroma and presence of syncytiocapillary membranes in terminal villi, which were lined with a single layer of trophoblast. On gross examination, as well as microscopically, umbilical cord and amniotic membranes were unremarkable. The chorangioma contained all developmental phases of angioblastema – endotheliomatous, capillary, cavernous – in fibrous stroma (Figure 3). Immunohistochemical analysis, which was performed due to the marked diversity of placental angioblastema differentiation, revealed variable reactivity of endothelial cells to CD34. Capillary angioblastema showed no reactivity for CD34, while weak reactivity was observed in capillary buds and immature capillaries. Endothelial cells of well formed mature capillaries showed strong reactivity for CD 34

(Figure 4). Proliferation index, measured by Ki67, was low: ≤4% (Figure 5) .

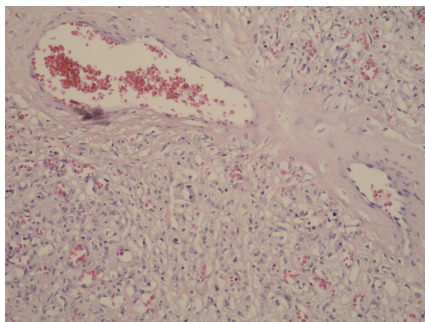
From the medical documentation it can be seen that during pregnancy patient underwent one ultrasound examination and four physical gynecological examinations, no abnormalities were found (Figure 6). The chorangioma was found during the labour. Unfortunately, only one ultrasonographic image was taken because the patient did not compliance.



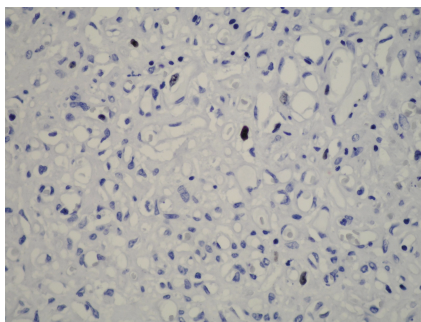
Figure 1. Solitary ovoid mass of chorangioma.



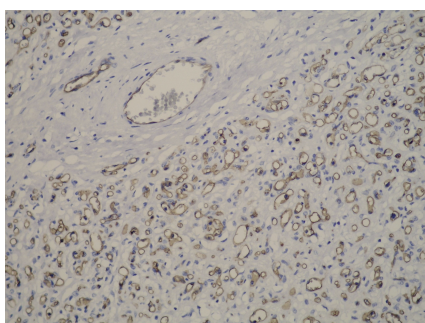
Figure 2. Dark, red-tan cut surface of chorangioma.



**Figure 3.** Predominantly capillary type proliferative blood vessels, (hematoxylin-eosin x 200).



**Figure 5.** Immunoperoxidase stain for Ki67 showing labeling of few endothelial cells in chorangioma (MSIP, x400).



**Figure 4.** Immunoperoxidase stain for CD 34 showing strong reactivity of endothelial cells (MSIP, x200).



**Figure 6.** An ultrasonographic image in 12th week of pregnancy. There are not any signs of abnormalities.

## Discussion

Chorangioma is a nontrophoblastic tumour characterized by abnormal vascular development within the placental parenchyma, which is most frequently observed in the third, and less frequently in the second trimester of pregnancy as a solitary nodule or, less frequently, as multiple nodules. It is usually an incidental microscopical finding. Even though it has no fibrous capsule, it is sharply demarcated from the surrounding placental parenchyma by a single or, less frequently, double layer of chorionic epithelium. It is most frequently found on the fetal surface of the placenta, often in the vicinity of umbilical cord insertion, with larger tumors being usually attached to the chorion. On gross examination, it is well-circumscribed, with fleshy, congested, red to tan cut surface. Its frequency is 1%, even though literature reports vary. Chorangioma is a benign, biologically indolent neoplasm, frequently referred to as placental hemangioma or haemangioblastoma. It is microscopically composed of numerous proliferative blood vessels in vari-

ous stages of differentiation, from capillary to cavernous. The amount of vascular and fibrous stromal component can vary. Differential diagnosis of chorangioma includes chorangiosis and chorangiomas, that presents a diffuse or more often a focal proliferation of villous angioblastema with villi that are not present in chorangioma. The clinical significance of chorangioma is size-dependent. Small chorangiomas possess no clinical significance. On the contrary, clinically significant chorangiomas, greater than 5 cm or multiple, may be associated with hidramnios, hemorrhage, premature delivery, premature placental separation and placenta previa.<sup>5</sup> These manifestations may result in severe fetal distress and intrauterine death. They may also lead to non-immune hydrops fetalis.<sup>5,8</sup> Anaemia, thrombocytopenia or congestive cardiac failure may be seen in a neonate.<sup>1</sup>

Our hypothesis is that the remained placental tissue compensated fetal requests and placental volume were not related to a pregnancy disorders or developmental abnormalities of the fetus.

The presented case of chorangioma is inter-

esting for two reasons:

1. Its presence and size were not related to a pregnancy disorders or developmental anomalies of the fetus.
2. This tumor can be used as a model for research on the genesis of vascular diseases.

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