CHORANGIOSIS PLACENTA

B. G. Malathi[1], M. R. Manjunath[2]

HOW TO CITE THIS ARTICLE:
B. G. Malathi, M. R. Manjunath. "Chorangiosis Placenta". Journal of Evidence Based Medicine and Healthcare; Volume 1, Issue 8, October 15, 2014; Page: 922-924.

INTRODUCTION: Chorangiosis is an uncommon, miscellaneous vascular pathology of terminal chorionic villi demonstrating proliferation of villous capillaries without stromal hypercellularity.[1, 2] Studies show high perinatal mortality and congenital anomalies varying from 42% and 39%,[2] 27% and 28%[3] respectively. Commonly associated with various feto-maternal and placental conditions.[2, 6]

Generally considered as adaptive response to chronic maternal hypobaric hypoxia.[4, 6]

MATERIAL AND METHODS: A 23 year lady, G3P1L1A1 with 39 weeks of gestation, breach presentation presented with sudden onset of pain and leaking per vagina. She had history of pregnancy induced hypertension. Normal antenatal scans till 38 weeks of gestation. On examination foetal intrauterine death was noted.

Specimen of placenta with intact membranes was sent for histopathology study.

Gross: Specimen of placenta with umbilical cord and membranes together weighed 510gms. Placenta measured 20 x 16 x 4cms. Maternal and fetal surfaces appeared normal. Cord measured 20 cm in length, all the three vessels identified. Membranes were normal.

Microscopy: Sections from the random areas of placenta showed dysmaturity of chorionic villi displaying hypervascularity of capillary-sized vessels. Seen were at least in 10 microscopic fields, at least 10 villi, having atleast 10 capillary lumina at 10x magnification. Intervillous stroma was scantily cellular.

Sections from the cord and membranes were unremarkable.

Gross photograph of placenta with umbilical cord

Figure 1

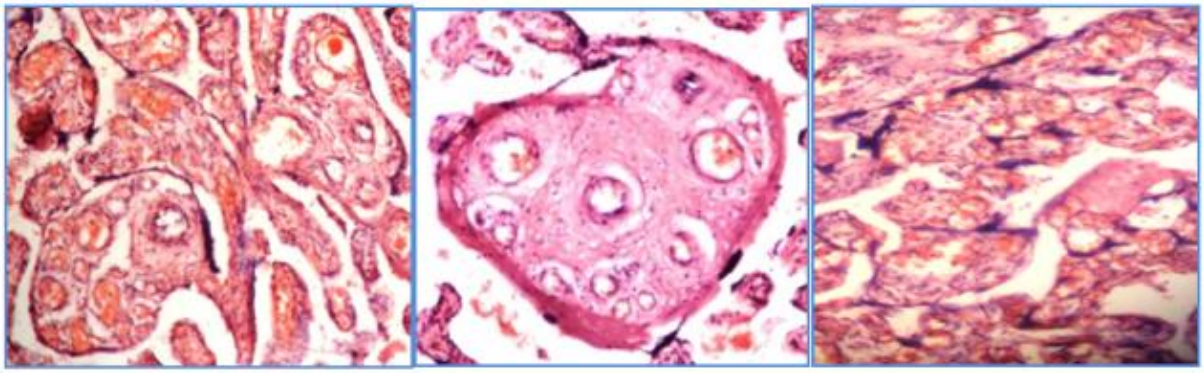

Figure 2

Microscopy of hypervascular choronic villi containing more than10 capillaries per villous. [H & E, xIO] magnification

DISCUSSION: In normal placenta, chorionic villi rarely contain more than five capillary luminous,[3,6] even when the same vessel is present in more than one plane of section.[2] The diagnostic criteria for chorangiosis was described by Altshuler G. in 1984, as 10 or more chorionic villi, each containing 10 or more capillaries, in each of the 10 microscopic fields, viewed at 10x magnification in 3 or more random non-infarcted placental areas.[1] The differential diagnosis include congestion, placental malperfusion, chorangioma and chorangiomatosis. In placental congestion, the villi show numerically normal vessels.[3] In Placental malperfusion severe subtotal placental congestion but not diffuse villous capillary hypervascularity is seen.[3] Chorangioma and chorangiomatosis both show localized proliferation of vascular channels within a single villous covered by trophoblastc tissue. Increased stromal cellularity and collagenisation.[2, 3]

Seen before 32 weeks of gestations.[2] Also, in chorangiomatosis the vessels have a thick wall containing actin-positive smooth muscle cells.[6] Chorangiosis is more common after 37 weeks of pregnancy, is a diffuse process involving the tips of terminal villi and has numerous closely approximating capillaries with intact basement membrane.[2] Etiological factors associated with chorangiosis may be maternal, placental or fetal conditions. The maternal conditions include women living in high altitudes, pre -eclampsia, eclampsia, diabetes mellitus, severe anemia[2], syphilis, smoking and oxidative stress related to any other cause.[3, 5] The placental associations are abruptio placente, placenta previa, villitis due to rubella, cytomegalovirus, syphilis and bartonella infection.[2, 6] Umbilical cord anomalies include single umbilical artery.[6] The fetal factors are the presence of major congenital anomalies and an Apgar score of less than.[5, 6]

The pathogenesis of chorangiosis is thought to be adaptive response to hypoxic stimulus which causes excessive villous capillary and connective tissue proliferation probably due to the induction of growth factors.[4, 6]

CONCLUSION: In view of high incidence of perinatal morbidity and mortality that complicates chorangiosis, it is important for pathologists to appreciate this uncommon yet alarming pathology among the aforementioned differential diagnosis.

REFERENCES:

1. Altshuler G. A conceptual approach to placental pathology and pregnancy outcome. Semin Diagn pathol 1993; 10: 24.
2. Agale S V, Doangoankar D D. Bombay Hospital Journal, 2009: 51(2).
3. Geoffrey P. Altshuler. The placenta. In: Stacey E. Mills, editor. Sternberg's diagnostic surgical pathology. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2004;3:2323-25..
4. Rebecca N. Baergen Kurt Benirschke in The Placenta, Products of conception, and gestational trophoblastic disease. Steven G Silverberg Editor in chief Vol-2 Churchill livingstone Elsevier 2006, 4th ed. Philadelphia. 2073-74.
5. Barut A, Barut F, Onak N, Kandemir et al. Placental Chorangiosis: The association with oxidative stress and angiogenesis. Gynecologic and obstetric investigation. 2012; 73(2): 141-151.
6. Mathew M, Garg S, Rai L, Kustogi P. Placental Chorangiosis – A report of two cases with unusual associations and review of literature. The Internet Journal of Gynecology and Obstetrics. 2008; 11(2).

AUTHORS:

1. B. G. Malathi
2. M. R. Manjunath

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Pathology, Mandya Institute of Medical Sciences, Mandya.
2. Assistant Professor, Department of Pathology, Mandya Institute of Medical Sciences, Mandya.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. B. G. Malathi,
Associate Professor,
Department of Pathology,
Mandya Institute of Medical Sciences,
Mandya.
E-mail: malathikush@gmail.com

Date of Submission: 27/08/2014.
Date of Peer Review: 01/09/2014.
Date of Acceptance: 23/09/2014.
Date of Publishing: 07/10/2014.