

Case Presentation: A Case of Diffuse Villous Edema in a Dichorionic Diamniotic Placenta.

Abstract: Diffuse Villous Edema was discovered as an incidental finding in a dichorionic diamniotic twin placenta. Grossly no placental defects were present. Although there were no complications for the twins in this case, there are several noted negative associations of diffuse villous edema that may impact a pregnancy.

Introduction: A female at 36 6/7 weeks with dichorionic diamniotic gestation twins presented to the Emergency department in labor. A low transverse cesarean section was performed. Viable twins without complications were delivered. An intact twin placenta that appeared grossly normal was extracted. There were no noted complications of the twins following the delivery.

Gross: An 860-gram stripped weight dichorionic diamniotic fused twin placenta was examined. A semi-translucent common membrane divided the gestation sacs equally. The trivascular, normally twisted umbilical cords inserted on each placenta disc. They measure 3.5 and 2.0 cm from the two-separate placental disc, respectively. The fetal surfaces had mildly congested chronic vessels and mild subchorionic fibrin deposition. The chorionic vascular distribution was normal and no anastomoses were identified. The maternal surface was complete and had mild fibrin deposition and minimal calcifications, with loosely adherent blood clot. The cut surfaces consisted of spongy, uniform parenchyma.

Microscopic: Sections demonstrated umbilical cords without funisitis and fetal membranes without chorioamnionitis. The placental disc showed villi appropriately matured for gestational age with normal fetal vessels and no inflammation in Twin B. Twin A placental disc demonstrated scattered diffuse villous edema with large “lymphatic-like” spaces and floating Hofbauer cells (Figure 1 and Figure 2).

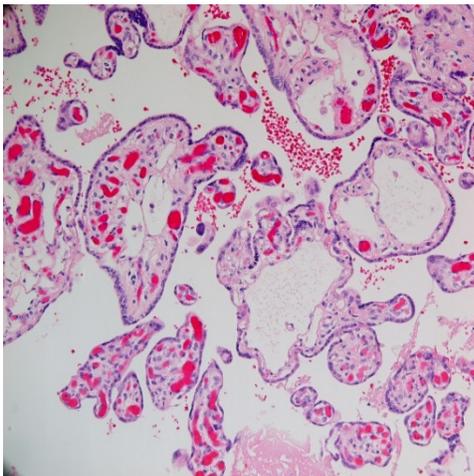


Figure 1: Diffuse Villous Edema (10 x)

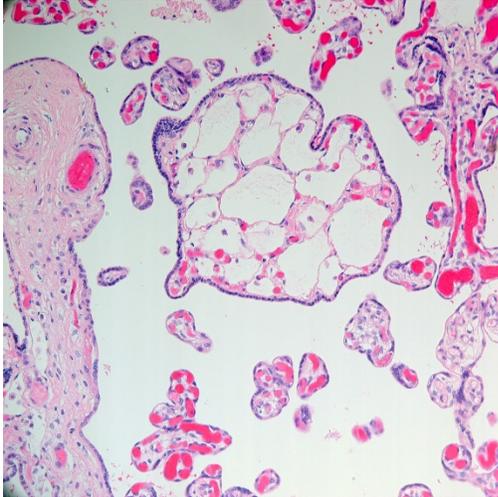


Figure 2: Diffuse Villous Edema (40 x)

Discussion: Diffuse villous edema with large “lymphatic-like” spaces and floating Hofbauer cells can be associated with preterm deliveries with evidence of antenatal hypoxia. Additionally, it may occur following a sentinel event of uterine rupture or placental abruption or in cases of acute chorioamnionitis etc (1). Associated morbidities may include cerebral palsy, neurocognitive disorders, and respiratory distress (1). The cause of diffuse villous edema is controversial. A postulated pathogenesis includes villous edema as the cause or sequel of a hypoxic insult (1).

The dilated “lymphatic-like” spaces in this placenta initially posed a diagnostic dilemma. Lymphatic vessels are not believed to be part of a normal or diseased placenta (2). This belief was verified by a study by Castro et al. who stained placentas with special stains for lymphatic endothelial cells, D2-40 and PROX-1. In this study, no definitive lymphatics were seen by special stains in the placentas. Thorough research of the literature on cisternal placental disorders assisted with the confirmation of the diagnosis of diffuse villous edema.

References

1. R. Redline, T. Theonia, and D. Roberts. *Placenta and Gestational Pathology*. Cambridge University Press. September 2017.
2. Castro, E., W. Tony Parks, and C. Galambos. "Neither normal nor diseased placentas contain lymphatic vessels." *Placenta* 32.4 (2011): 310-316.