Accuracy of prenatal imaging in the diagnosis of vascular anomalies

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Objectives
Objective of this study was to evaluate the accuracy of prenatal imaging in reporting proper diagnosis of congenital vascular anomalies (CVA) according to classification system of the International Society for the Study of Vascular Anomalies (IVSSA).

Methods
Retrospective analysis of all fetal suspected CVA referred to our Unit from 2008 to 2018. All cases underwent detailed US examination and anatomical site, size, appearance and Doppler analysis of CVA was reported. Fetal MRI was required in specific cases. Data on postnatal outcome or autopic findings were recorded.

Results
CVA was suspected in 22 fetuses, at median gestational age of 24 weeks (IQ 21-26). Accuracy of prenatal diagnosis is reported in Figure 1. Figure 2 shows US and MRI appearance of 3 cases. Prenatal diagnosis was incorrect in one case of suspected benign vascular tumor in which postnatal biopsy revealed a neurocristic hamartoma of the neck and in 3 cases of simple lymphatic malformations, subsequently identified as intestinal duplication (1 case), and branchial cleft cysts (2 cases). In a case of PROS-A syndrome diagnosis was incomplete as limb hypertrophy was identified only after birth.

Conclusions
Congenital vascular anomalies can be identified in utero. Prenatal imaging allows correct classification in the majority of cases, with an overall diagnostic accuracy of 77.3%.