REPORT OF TWO CASES OF PERSISTENT RIGHT UMBILICAL VEIN. *THE GALLBLADDER GUIDES YOU.*

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INTRODUCTION: Persistent right umbilical vein (PRUV) is one of the most common prenatal venous anomalies detected. It is characterized by atresia of the left umbilical vein while the right umbilical vein remains open and does not degenerate. There are two main presentations: intrahepatic PRUV (I-PRUV), which is more prevalent (90-95% of cases) and extrahepatic PRUV (E-PRUV) (1). Under normal conditions, the right branch of the initial pair of umbilical veins begins to obliterate in the 4th week of gestation, disappearing in the 7th week (2). In I-PRUV, the PRUV fuses with the right portal vein and through the ductus venosus (DV) drains into the inferior vena cava; while in the extrahepatic variant the PRUV bypasses the fetal liver and may drain directly into the inferior vena cava or the right atrium. This finding is associated with agenesis of the DV and poor prognosis due to the possibility of causing fetal cardiac overload and, consequently, congestive heart failure (3).

OBJECTIVE:

Two clinical cases of persistent right umbilical vein collected at the Hospital Universitario Infanta Cristina are presented and a discussion is made with studies found in the literature.

MATERIALS AND METHODS:

The two clinical cases are presented. The studies were obtained through a search in Pubmed with the following keywords: "persistent umbilical vein", "persistent right umbilical vein", "prenatal diagnosis", "prognosis", "prenatal ultrasound".

RESULTS:

We present two clinical cases of fetuses with a diagnosis of persistent right umbilical vein in its intrahepatic variant with favorable postnatal ultrasound findings.

CLINICAL CASE 1: 38-year-old patient, with no history of interest or toxic habits. Her fifth pregnancy and four previous deliveries, with current gestation of normal course except for ultrasound findings in week 28 of I-PRUV with no signs of cardiac overload and normal DV. In addition, cisterna magna was found in high limit of normality of 11mm which increased in later controls up to 14mm, without other malformations. She had a normal delivery and puerperium. The newborn was asymptomatic and abdominal and transfontanellar ultrasounds were performed without significant findings.

CLINICAL CASE 2: 28-year-old patient, with no history of interest or toxic habits. Her third pregnancy and two previous deliveries, with current gestation of normal course except for ultrasound findings in week 21 of I-PRUV with no signs of cardiac overload and normal DV. No other malformations were found. She had a normal delivery and puerperium. The newborn was asymptomatic.

In the ultrasound images obtained, the umbilical vein (UV) runs laterally to the right with respect to the gallbladder; in other words, the latter is situated medial to the UV (Figure 1).

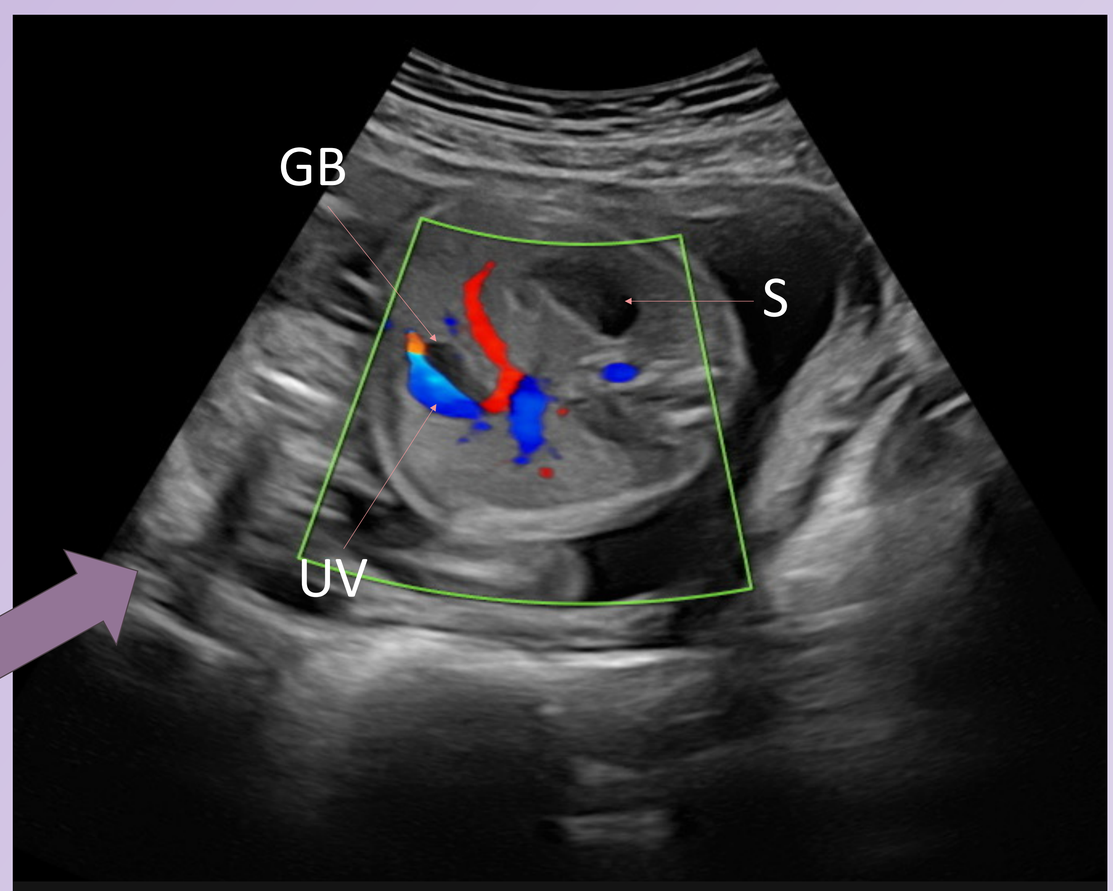

Figure 1. PRUV visualised in a cross-section of the fetal abdomen (colour Doppler). Gallbladder is situated medial to the UV. (S: stomach; GB: gallbladder; UV: umbilical vein).

DISCUSSION:

The underlying pathogenic mechanism causing PRUV is not completely clear. Teratogenic agents, such as retinoic acid or folate deficiency; as well as early obliteration of the left umbilical vein, caused by external pressure or thrombus occlusion, may induce the PRUV anomaly (4).

In a retrospective study (5), considered as one of those with the largest sample of prenatal ultrasound diagnoses of fetal PRUV, it was concluded that when PRUV is found on prenatal ultrasound, a detailed examination of other fetal structures should be performed to rule out abnormalities in other systems, and fetal echocardiography is recommended.

CONCLUSIONS:

It is important to emphasize that from a basic cross-section such as the umbilical vein and stomach it is possible to diagnose PRUV by visualizing the gallbladder in the medial part of the UV.

We can conclude that I-PRUV has a better prognosis than E-PRUV, due to the frequent association of the latter variant with severe hemodynamic effects or with other severe fetal malformations, especially cardiac.

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