Parvovirus B19 infection: a case of Mirror syndrome
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Objective
The aim of the study is to present a case of Mirror syndrome due to parvovirus B19 infection.

Methods
We present a case of a 31 years-old woman, gravida 1, para 0, who was referred at 27 weeks of gestation to our hospital because edema in the lower limbs and ascites fetal. The patient was admitted to continue the clinical study. An ultrasound examination revealed hydrops fetalis (pericardial effusion, ascites, skin edema), placentomegaly and Doppler ultrasound showed us a middle cerebral artery peak systolic velocity (MCA PSV) compatible with severe fetal anemia. Therefore, intrauterine fetal blood transfusion was made. The fetal blood analysis confirmed the severe anemia and revealed a normal karyotype (46 XY) and parvovirus B19 infection. Immune and morphological causes of hydrops were excluded. Other studies demonstrated maternal infection for Parvovirus B19, mild hypertransaminasemia, and proteinuria.

Results
Fetal hemoglobin reached normal ranges and MCA PSV became normal after fetal transfusion, but maternal state suffered a deterioration. She presented an increase of edema, hypertransaminasemia, hypoproteinemia, proteinuria, anemia and low platelets. Blood pressure was normal. Furosemide and albumin were given to the patient like supportive measures. Few days later maternal condition improved at the same time as the fetus was recovering. Finally, control ultrasonography showed resolution of fetal hydrops.

Conclusion
We have described a case of Mirror syndrome in the context of a nonimmune hydrops fetalis (NIHF) associated with fetal anemia due to materno-fetal Parvovirus B19 infection. Mirror syndrome also known as Ballantyne syndrome is a condition characterised by fetal hydrops, generalized maternal edema and placentomegaly. Although the pathogenesis is not clear, the etiologic associations are known and include rhesus isoimmunization and NIHF due to structural and non structural fetal anomalies. In our case, the etiology was a viral infection. Parvovirus B19 is a DNA virus, the incidence of infection during pregnancy is 3.3 to 3.8 percent. Most intrauterine parvovirus infections do not have an adverse outcome whereas a small percentage can lead to fetal hydrops, fetal anemia, premature delivery or fetal loss. Mirror syndrome may be confused with preeclampsia, in our case some features were compatible: proteinuria, hypertransaminasemia and low platelet. In contrast to preeclampsia, the maternal hematocrit was low (hemodilution), the blood pressure was normal, and the fetus shows signs of hydrops. In our case, the main treatments included supportive measures and intrauterine fetal transfusion, this specific treatment of fetal anemia resulted in reversal of fetal hydrops and finally in disappearance of maternal symptoms, avoiding maternal complication allowing continuation of the pregnancy.