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Two cases of fetal ascites in the same woman with congenital cholestasis: is there a possible association?

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Introduction

Fetal ascites, defined as abnormal fluid accumulation within fetal peritoneal cavity, has multiple etiologies, although up to 13% of cases remain idiopathic. We report a case of recurrent fetal ascites in a 38 years old woman affected by Progressive Familial Intrahepatic Cholestasis (PFIC) type 3, to explore a possible association with elevated maternal bile acids.

Conclusion

The recurrence of fetal ascites in the same patient, in association with elevated bile acids and after exclusion of other etiologies, suggests a potential role of maternal cholestasis in its pathogenesis.

Two cases in the same patient

- **2016 – I pregnancy** → miscarriage at 18 weeks due to cervical insufficiency;
- **2017 – II pregnancy** → fetal ascites developed in the second trimester in association with severe maternal cholestasis, leading to termination of pregnancy at 22 weeks (*Figure 1*);
- **2019 – III pregnancy** → severe cholestasis (bile acids $>100 \mu\text{mol/L}$) developed in the third trimester, requiring induction of labour at 35 weeks;
- **2020 – IV pregnancy** → recurrent fetal ascites was diagnosed at 24 weeks (*Figure 2*), concomitant with markedly elevated maternal bile acids ($137.8 \mu\text{mol/L}$). Infectious, chromosomal, and hematological causes were excluded. Ursodeoxycholic acid treatment was followed by a progressive reduction in both bile acid levels and fetal ascites. Delivery occurred at 35+6 weeks, with a favourable neonatal outcome and spontaneous resolution of residual ascites.

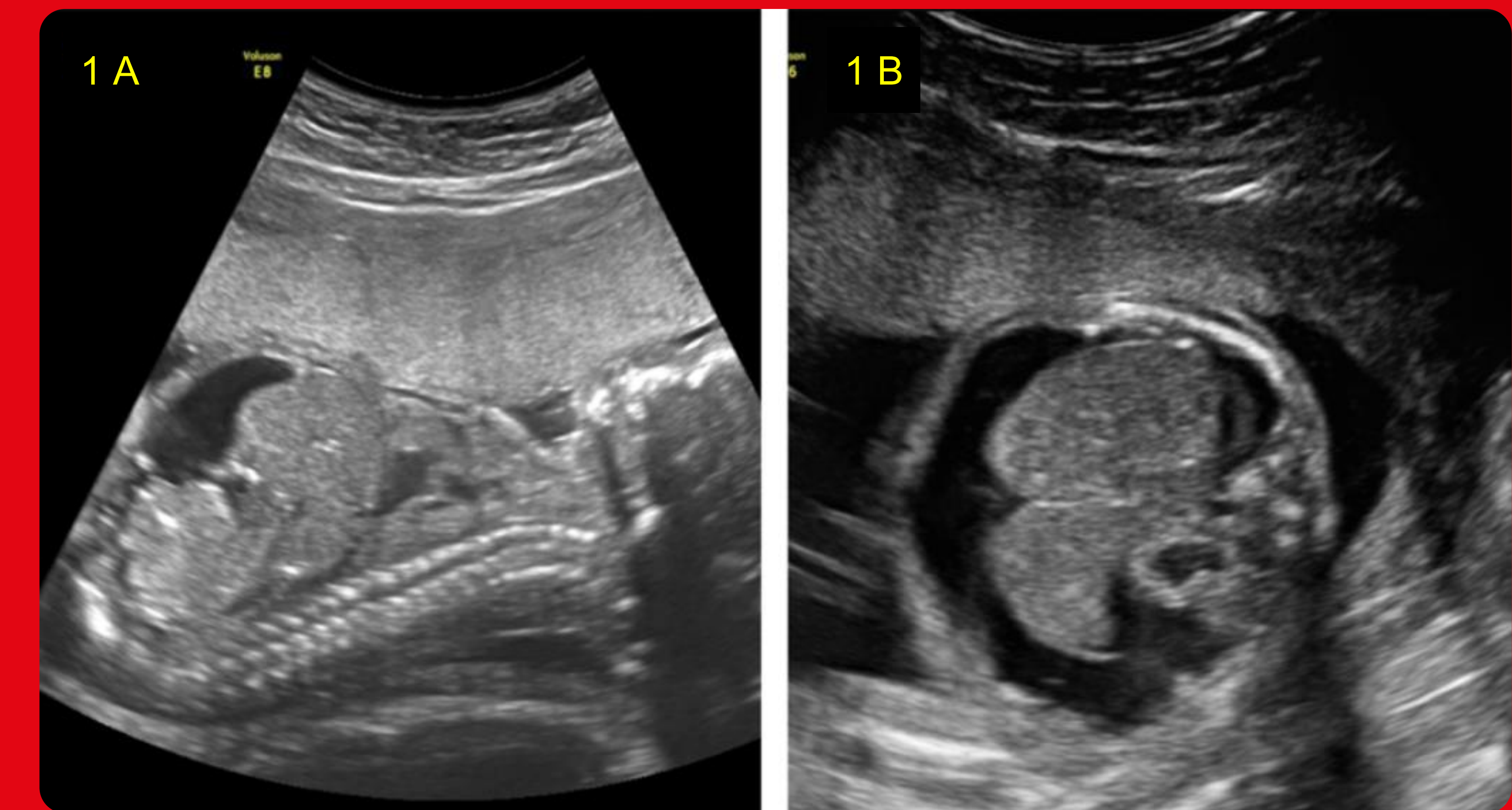


Figure 1. Fetal ascites complicated the second pregnancy of a woman with severe cholestasis in a sagittal plane (1A) and transverse plane (1B)

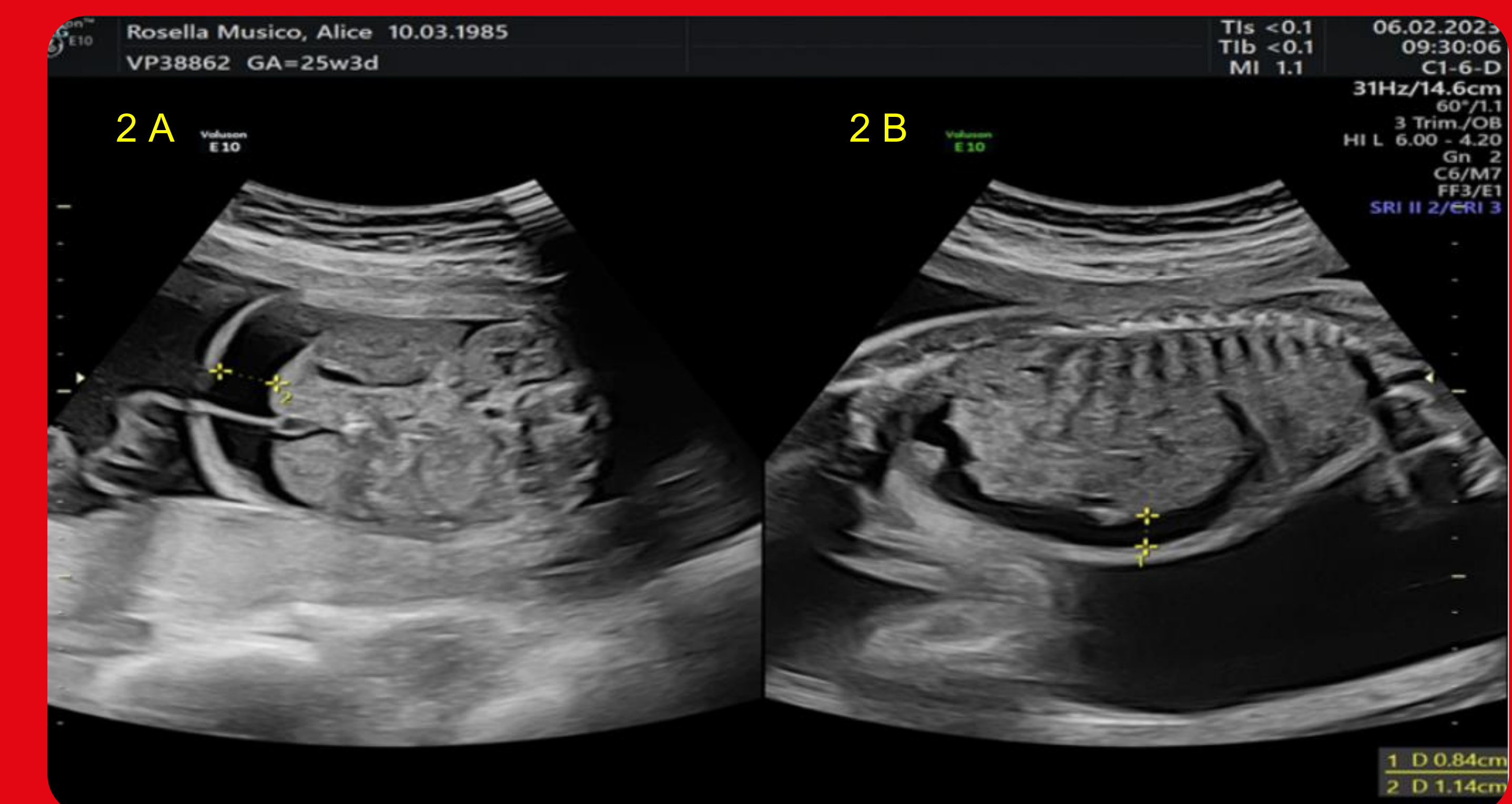


Figure 2. Fetal ascites seen in trasverse (2A) and sagittal (2B) scan, which occurred during the fourth pregnancy of the same woman.