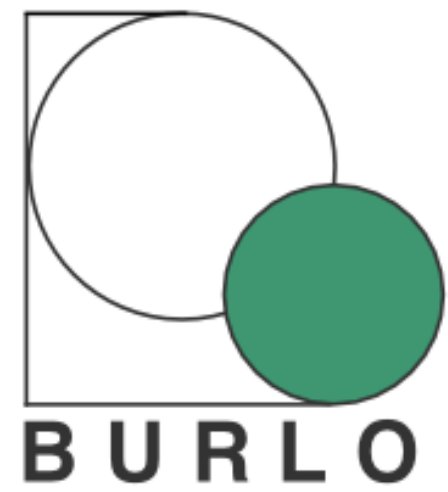


Placental mesenchymal dysplasia and severe anti D alloimmunization with fetal anemia.

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Objective:

We describe an unique association between placental mesenchymal dysplasia (PMD) with fetal growth restriction (FGR) and sudden new-onset anti D alloimmunization with neonatal anemia.

Case report:

33-year-old nulliparous woman at 36+5 weeks’ gestation
referred to Fetal Medicine Unit for
multicystic left kidney, suspected FGR and thickened placenta

No medical issues

RhD- negative blood type

Negative indirect Coombs test (ICT) up to 30 weeks’ gestation

Routine anti-D prophylaxis at 28 weeks’ gestation (300 mcg).

Last ICT one month after immunization slightly positive (titre 1:4).

Ultrasound (US) examination:

- confirmed FGR (estimated fetal weight <5°pc)
- thickened placenta (10 cm)
- left kidney not measurable for atrophy
- cardiomegaly on echocardiography (CT/CT 0,57) with normal cardiac function
- no evidence of fetal anemia

Patient admission

- positive ICT with anti-D titre of 1:2048
- negative Kleihauer-Betke test

Labour induced

Vaginal delivery

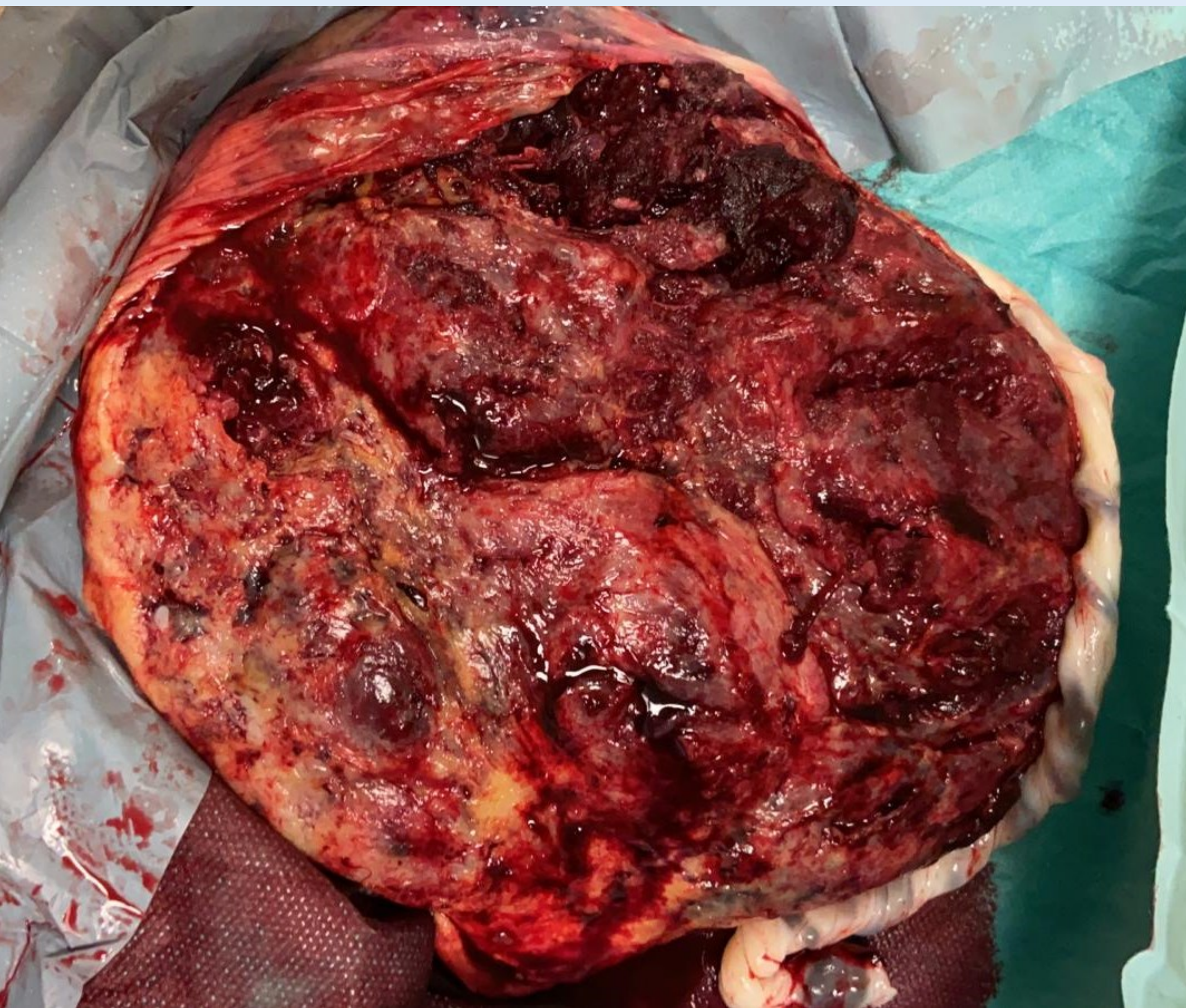
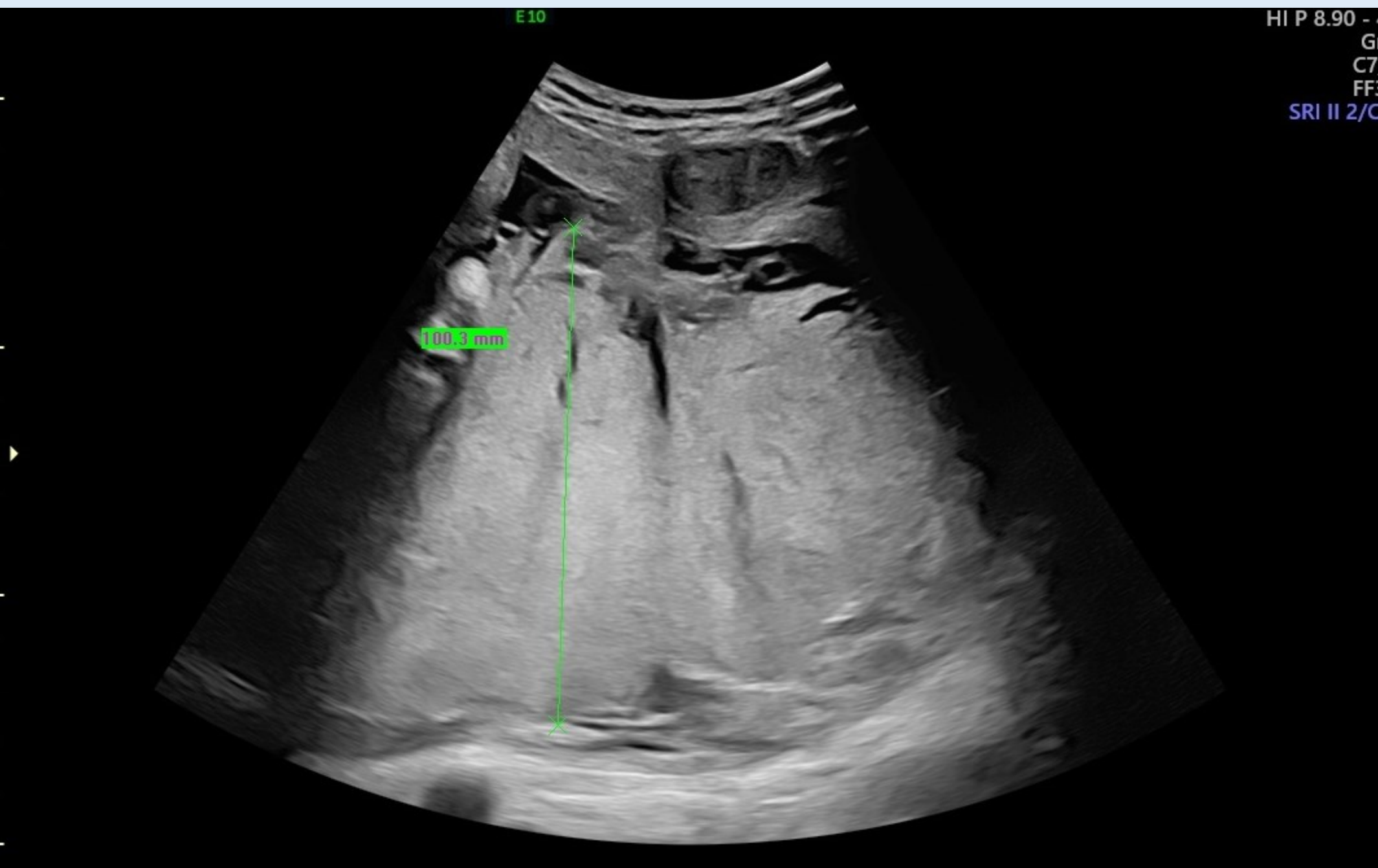
2135 gr RhD-positive female new-born

- admitted to neonatal intensive care
- diagnosis of haemolytic disease of newborn (HDFN)
- blood transfusion

The patient developed hypertension and oliguria.

PMD was found on placental histo-pathological examination.

Genetic testing (CGH Array) of the newborn and parents was unremarkable.



Discussion:

PMD is a rare condition (incidence 0,02%) characterized by

- placentomegaly with cystic appearance
- enlargement of the chorionic vessels
- increased stromal mesenchyma¹.

It is associated with increased risk of FGR and intrauterine death (IUID) but the physiopathology behind the letter is uncertain.

A correlation between PMD and fetal haematological abnormalities, like anemia has been previously reported, possibly due to consumptive coagulopathy or haemolysis due to abnormal blood shunting in the placenta².

Moreover, PMD is a predisposing factor for feto-maternal haemorrhage (FMH)^{1,3}.

However, an association between PMD and anti-D alloimmunization has not been described previously in the literature.

Of note, the sudden onset and severity of the anti-D alloimmunization in the index pregnancy , with feto-neonatal consequences, is also unusual

Conclusions:

The presence of FGR and placentomegaly with signs of fetal anemia should arise the suspicion of PMD that might have clinical implications.

One of these, although rare, is the possibility of feto-maternal haemorrhage and RhD alloimmunization with its consequences.

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2. Ishikawa S, Morikawa M, Umazume T, et al. Anemia in a neonate with placental mesenchymal dysplasia. *Clin Case Reports*. 2016;4(5):463-465. doi:10.1002/ccr3.543
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