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Case report

Intraventricular hemorrhage in ICSI twin pregnant woman with thrombasthenia: A rare case report

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ABSTRACT

Intraventricular hemorrhage is bleeding into the fluid-filled areas (ventricles) inside the brain. The condition occurs most often in babies that are born premature, growth restricted and twins pregnancies. Abnormal platelets number or functions are responsible greatly for this condition. We presented here a pregnant woman had thrombasthenia at 28 weeks of gestation with ultrasound findings of intraventricular haemorrhage in her both ICSI twin's fetuses.

Introduction

Intraventricular hemorrhage (IVH) is a common complication of immature neonatal brain and may result in post-hemorrhagic hydrocephalus characterized by high mortality rate and neuro-developmental delay [1,2]. It exists more common in twins than in singleton newborn, mostly due to prematurity and low birth weight [3].

Platelet disorders in pregnancy are common [4]. Thrombasthenia is a rare haemorrhagic disorder in which the antibodies against platelet glycoproteins may cause, in a few number, neonatal alloimmune thrombocytopenia and potential IVH [5]. The pregnant women with thrombasthenia should be treated well to normalize the hematologic profiles; the treatment consists of platelet transfusion, plasmapharesis and recombinant factor VIII [6].

Prompt diagnosis is very important because thrombasthenia can be associated with fetal thrombocytopenia, which determining route of delivery [7].

Case report

Here we present a case of 31-years-old woman, gravida 2, has no living children, was referred to our tertiary hospital at 28 weeks twin gestations with bilateral ventriculomegaly in both fetuses. She was diagnosed to have thrombasthenia during a work up done during the puberty for generalized bruising, bilateral epistaxis and menorrhagia. The bleeding episodes usually need platelet rich plasma to be stopped. She had a previous history of ectopic pregnancy at the right tube managed by salpingectomy. She had also previous history of four failed trials of ICSI. She denied any bleeding episodes or blood transfusion since one year.

The current pregnancy was ICSI twin pregnancy. Her antenatal course was uneventful and all investigations including anomaly scan were normal. One week before referral, the patient developed bilateral epistaxis and hematuria associated with decrease fetal movement. She was examined using trans-abdominal ultrasound (TAS) by general practitioner who reported that she had death of a co-twin with bilateral ventriculomegaly in both fetuses.

At our hospital, she received haemostatic drugs and the bleeding episode was stopped shortly after admission. The patient's pregnancy work up was showing hemoglobin of 8.7 gm/dL, platelet count 380×10^9/L and normal prothrombin time, prothrombin concentration and APTT. She received 4 units of packed RBCs to correct the anemia. The urine analysis revealed high number of RBCs (over 100). However; the platelets functions were severely impaired. Platelet aggregation studies reveled severe deficiency in the aggregation of ADP, ristocetin and arachidonic acid.

On targeted TAS performed at our Fetal Care Unit, a dichorionic diamniotic twin pregnancy was present; the first one was dead while the other one was still living. The average fetal biometry of both fetuses away from biparietal diameter was equivalent to ± 27 weeks. The amniotic fluid indices were normal in both amniotic sacs and two high situated placentas were found. The biparietal diameter and head circumference, in dead fetus was 35 weeks while for a living one was ±38 weeks. By detailed scan; there were multiple hypoechoic lesions inside the lateral ventricles which raised the suspicion of IVH (Fig. 1). Also, the lateral ventricles in both fetuses were associated with moderate ventriculomegaly (an atrial width of 15–20 mm)

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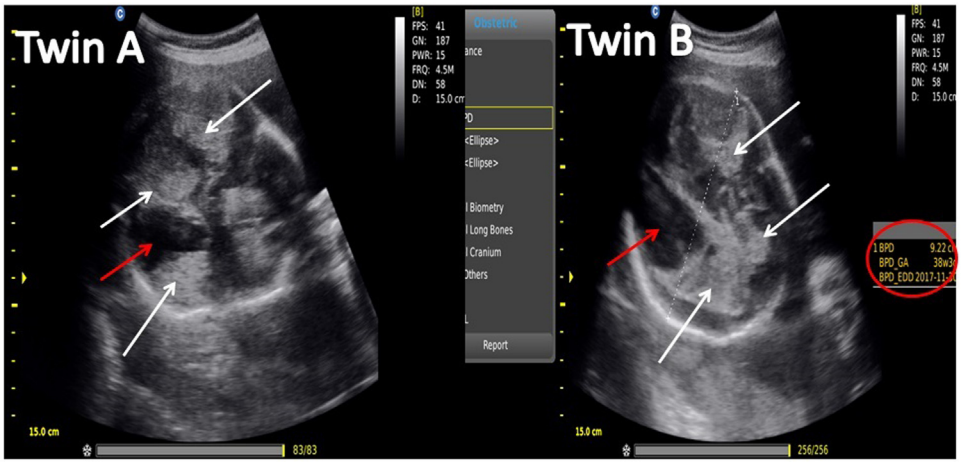

Fig. 1. Transventricular view of the head of both fetuses at 28 weeks. Intraventricular hypoechoic lesions (white arrows) are shown inside the lateral ventricle (IVH). Bilateral ventriculomegaly has also seen (red arrows).

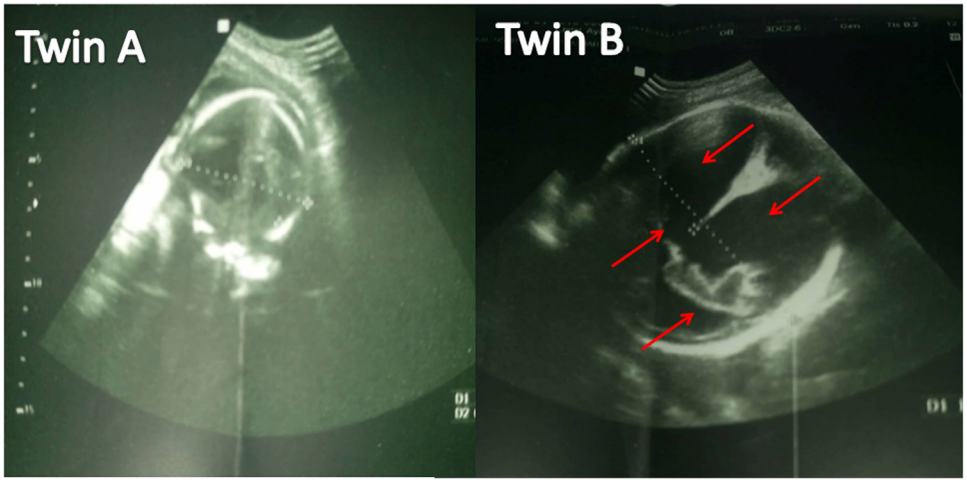

Fig. 2. Transventricular view of the head of both fetuses at 34 weeks. The head of twin A was collapse. The brain tissues of twin B were almost all replaced by fluid (hydrocephaly) (red arrows).

(Fig. 1). Normal Doppler study in the living baby was reported. No other fetal abnormalities were seen in both fetuses.

On follow-up TAS at a gestational age of 34 weeks, the head of the dead fetus was collapsed. As regard the second baby, almost all intraventricular hypoechoic lesions were disappeared and brain tissues were replaced by anechoic fluid (fetal hydrocephalus) with biparietal diameter of 11.5 cm and atrial diameter 25 mm (Fig. 2).

The mother had not any further bleeding episodes since admission, however; six days later (at 35 weeks), the patients started to feel an abdominal pain which increased in the intensity and duration with the time associated with mild vaginal bleeding. So the patient was examined vaginally and unfortunately the cervix was 4 cm dilated (the patient was actively in labour). The patient consented for the delivery by cesarean section. Five units of platelet rich plasma and 1 L of fresh blood were transfused (the hemoglobin was 9 gm/dL). Cesarean section was done under general anesthesia with uneventful third stage. A male neonate weighing 2800 g was delivered with Apgar scores of 5 at 1 min and 7 at 5 min. The second dead fetus was delivered followed by infusion of 20 units oxytocin in 500 ml ringer lactate immediately and continued for six hours after the delivery. The postpartum course was uneventful. Patient discharged 3 days later in a good condition with hemoglobin 9.5 gm/dL.

Head circumference of the living baby was 39 cm (more than 90th percentile). The fontanel was soft and bulging. No bruises or petechiae were noted on the body surface. No other abnormalities could be seen. Laboratory findings showed normal platelet count (190×10^9/L) with a normal prothrombin time and concentration. Platelets aggregation tests were normal. Consultation of pediatric neurosurgery stuff was done with advice of brain ultrasonography which shown moderate hydrocephalus without evidence of IVH. The neonate was otherwise good and bottle feed. The extraventricular drainage was performed. The infant was discharged on the 20th day and was still alive.

Discussion

Up to our knowledge, there was no reported case before of IVH in both ICSI twin pregnancies in mother having thrombasthenia. To date, there are many studies reported the correlation between idiopathic thrombocytopenic purpura and increased risk of fetal

intracranial hemorrhage, however; much less number reported the impact of thrombasthenia and fetal outcome [8].

What is surprising in our case report is that, firstly; the IVH developed in both fetuses in spite of presence of two separate placentae. We suggested that there were high level of antibodies that were able to cross the placentas and affected both fetuses. Secondly; the living fetus had normal platelets count and function, so the real cause of IVH is still unclear.

Finally; the obstetricians should pay a great attention to platelet dysfunction in pregnancy because it has disastrous consequences not only to the mother but also for the fetus.

Conflict of interest

The authors reported no conflict of interest.

References

[1] van Gelder-Hasker MR1, van Wezel-Meijler G, de Groot L, van Geijn HP, de Vries JI. Peri- and intraventricular cerebral sonography in second- and third-trimester high-risk fetuses: a comparison with neonatal ultrasound and relation to neurological development. Ultrasound Obstet Gynecol 2003;22:110–20.

[2] Baschat AA1, Gembruch U, Viscardi RM, Gortner L, Harman CR. Antenatal prediction of intraventricular hemorrhage in fetal growth restriction: what is the role of Doppler? Ultrasound Obstet Gynecol 2002;19:334–9.

[3] Wieczorek AI, Krasomski G. Twin pregnancy as the risk factor for neonatal intraventricular hemorrhage. Ginekol Pol 2015;86:137–42.

[4] Cines DB, Levine LD. Thrombocytopenia in pregnancy. Hematol Am Soc Hematol Educ Program 2017;2017:144–51.

[5] Wijemanne A, Watt-Coote I, Austin S. Glanzmann thrombasthenia in pregnancy: optimising maternal and fetal outcomes. Obstet Med 2016;9:169–70.

[6] Di Minno Giovanni, Zotz Rainer B, d'Oiron Roseline, Bindslev Niels, Di Minno Matteo Nicola Dario, et al. The international, prospective Glanzmann Thrombasthenia Registry: treatment modalities and outcomes of non-surgical bleeding episodes in patients with Glanzmann thrombasthenia. Haematologica 2015;100:1031–7.

[7] Malhotra N, Chanana C, Deka D. Pregnancy in a patient of Glanzmann's thrombasthenia. Indian J Med Sci 2006;60:111–3.

[8] Kim MW, Choi HM. Fetal hydrocephalus in a pregnancy complicated by idiopathic thrombocytopenic purpura. J Ultrasound Med 2006;25:777–80 .