A rare case of idiopathic thrombocytopenia in association with an ovarian teratoma in pregnancy

P Soma-Pillay FCOG (SA), Cert (Maternal and Fetal Medicine) SA, **A P Macdonald** FCOG (SA), FRCOG and **E Mnisi** MBChB (Medunsa)

Department of Obstetrics & Gynaecology, Steve Biko Academic Hospital, Private Bag X169, Pretoria, Gauteng 0001, South Africa

Summary: Thrombocytopenia complicates 6–7% of pregnancies. We present the case of a 26-year-old patient who presented with severe thrombocytopenia associated with an ovarian teratoma in the second trimester of pregnancy.

Keywords: maternal–fetal medicine

INTRODUCTION

Thrombocytopenia in pregnancy is defined as a platelet count of less than $150 \times 10^9/L$. The incidence in pregnancy is 6–7% and the most common causes are gestational thrombocytopenia, preeclampsia and haemolysis, elevated liver enzymes and low platelets syndrome, HIV infection and immune thrombocytopenic purpura (ITP).¹

CASE REPORT

Mrs M, a 26-year-old para 1 gravida 3 patient, was referred to the maternal and fetal unit at 18 weeks gestation. She presented with a six month history of right-sided abdominal pain, which was progressively getting worse. She had a previous uncomplicated vaginal delivery at term and an elective termination of pregnancy at six weeks gestation. She had no medical or surgical history of note, she did not smoke, and she did not use alcohol, recreational drugs or other forms of toxin. On examination, she was stable with a blood pressure of 110/60 and a pulse of 90 and was afebrile. Cardiovascular, respiratory and central nervous system examinations were normal. She had a few scattered echymoses on her lower limbs that were not related to any trauma. Abdominal examination revealed an 18-week size uterus with a 10×10 cm mass in the right flank. The mass was tender, with guarding, but there was no rebound tenderness.

Special investigations revealed a haemoglobin level of 9.8 g/dL, a platelet count of $4 \times 10^9/L$ and a white cell count of $12 \times 10^9/L$. There were large platelets seen on blood film. Malaria, syphilis and HIV testing was negative. On abdominal ultrasound the liver, gall bladder, spleen and kidneys were normal. A normal 18-week intrauterine pregnancy was seen. The right ovary consisted of a $14 \text{ cm} \times 12 \text{ cm} \times 12 \text{ cm}$ cystic echogenic mass with calcifications. This was highly suggestive of an ovarian teratoma. After finding a picture of bicytopenia on full blood count, a bone marrow biopsy was performed.

The results showed no histopathological abnormalities and the marrow appeared hyperactive with all cell lines well represented. Megakaryocytes were increased in number with many immature forms present. The bone marrow picture confirmed adequate platelet production.

ITP was considered the most likely cause of the thrombocytopenia. Gestational thrombocytopenia was not considered as this condition usually presents in the third trimester with a platelet count of $>80 \times 10^9/L$. The plan was to remove the teratoma during the middle second trimester, but this decision was delayed because of the risk of performing elective surgery in the presence of severe thrombocytopenia. We hoped to correct the thrombocytopenia prior to surgery. After consultation with the departments of internal medicine and haematology, a diagnosis of ITP was made and the patient was started on prednisone 1 mg/kg. A response was expected after 48 hours but the platelet count remained at $3 \times 10^9/L$ and the haemoglobin level at 9.5 g/dL. The steroid treatment was continued for a few more days. After one week there was still no increase in the platelet count. The haematology department was re-consulted and treatment with intravenous immunoglobulin or intravenous anti-D was recommended. Intravenous anti-D was not available, so intravenous immunoglobulin was started. After 48 hours, the platelet count increased to $21 \times 10^9/L$ and the levels remained in this range for the next two weeks.

The next treatment modality considered was surgery – oophorectomy with or without splenectomy. During the next few days, the patient experienced increasing abdominal discomfort. The different surgical options were discussed with the patient. An oophorectomy without splenectomy would help with the abdominal discomfort but the platelet response was uncertain. A splenectomy holds a 1% risk of maternal mortality and the risk of preterm labour.¹ The decision was made to perform an oophorectomy. The surgery was performed at 27 weeks gestation by a gynaecological oncologist and a maternal and fetal specialist. A $19 \times 18 \times 9$ cm ovarian mass weighing 1369 g was removed. There were no bleeding complications at surgery. Histological examination of the ovary confirmed the presence of a benign cystic teratoma. The patient was given

Correspondence to: Dr Priya Soma-Pillay
Email: priya.somapillay@up.ac.za

a single dose of tractocile (7.5 mg) to prevent preterm delivery. Fortunately, the patient did not experience preterm labour in the immediate postsurgical period.

On day 1 postophorectomy, the platelet count was $58 \times 10^9/L$ and it increased to $88 \times 10^9/L$ two days later. After two weeks, the platelet count normalized at $287 \times 10^9/L$. The platelet count remained in the normal range for the rest of the pregnancy. The patient presented again at 33 weeks gestation in preterm labour. An infant weighing 1.8 kg with apgar scores of 9 and 10 was delivered vaginally. The neonate had a platelet count of $305 \times 10^9/L$ at birth. Both were discharged home two days after delivery.

DISCUSSION

There are four cases of idiopathic thrombocytopenia associated with germ-cell tumours described in the literature.^{2,3} None were associated with pregnancy and all occurred in males. A mediastinal mass was present in all cases. The mechanism for the thrombocytopenia is uncertain. This patient did not

respond to the conventional management of steroid or immunoglobulin therapy and therefore an immune mechanism is probably unlikely. Garnick and Griffin² suggested that it is possible that the tumour produces a substance that is toxic to platelets or megakaryocytes. They also recommend that this syndrome be considered in patients with a thrombocytopenia and a mediastinal mass. Our patient did not have a mediastinal mass. We present an interesting association, in pregnancy, of severe thrombocytopenia due to an ovarian teratoma.

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