IMMUNE THROMBOCYTOPAENIC PURPURA IN PREGNANCY: A CASE OF NEAR MISS MORTALITY IN A NIGERIAN.

Kikelomo, Temilola ADESINA*, Adegboyega,Adisa FAWOLE*, Idayat,Adenike DUROTOYE*, Abiodun, Peter ABOYEJI*, Omoyine.A MUSA*, Adebunmi,Oyeladun OLARINOYE*, Enang, Enang ENO*. Ayodeji.M ADEPOJU*.

**Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital, Ilorin, Nigeria.*
**Department of Haematology and Blood Transfusion, University of Ilorin Teaching Hospital, Ilorin ,Nigeria.*
**Department of Obstetrics and Gynaecology, University of Ilorin Teaching Hospital, Ilorin, Nigeria.*
**Department of Haematology and Blood Transfusion, University of Ilorin Teaching Hospital, Ilorin ,Nigeria.*
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ABSTRACT

Thrombocytopenia occurs in pregnancy like in the non-pregnant state and can be due to immune thrombocytopaenic purpura (ITP). The hyperoestrogenic state of pregnancy has been identified as a precipitating factor. This is a case report of a thirty year old Nigerian lady, who at a gestational age of 26 weeks developed ITP as a near miss mortality. Although, most literatures reported that the perinatal outcome is usually favourable in this condition, we report a case managed in our facility that had intrauterine death and non- remission until delivery; despite corticosteroid therapy and transfusion of eleven (11) units of blood. This report is relevant in a developing world where a rare condition almost caused a maternal death in spite of the high maternal mortality rates from other conditions. Baseline full blood count is advocated at booking to identify and monitor rare haematological disorders like this in pregnancy.
(Immune thrombocytopaenic purpura, Nigeria, perinatal mortality, pregnancy)

INTRODUCTION

Thrombocytopenia occurs in pregnancy like in the non-pregnant state and may actually predate conception in some instances. It can be due to immune thrombocytopaenic purpura which is a diagnosis of exclusion[1]. This may be unknown pre-pregnancy because of spontaneous remission; it may be secondary to an underlying disorder such as an autoimmune disease[2-5]. The hormonal changes of pregnancy may precipitate a recurrence in a woman at risk and others may present for the first time in

Correspondence: Dr. K.T. Adesina
teminikike@yahoo.com, adesina.kt@unilorin.edu.ng.
+234(0)8033813442.

pregnancy. Other causes in pregnancy may range from such pregnancy specific conditions such as Pre- eclampsia to non-specific isolated conditions like gestational thrombocytopaenia[1-6]. Immune thrombocytopenia (ITP) occurs in 0.1-1per 1,000 pregnancies, and accounts for 5% of cases of pregnancy-associated thrombocytopenia[7]. Despite its rarity compared to gestational thrombocytopenia (vide infra), ITP is the most common cause of isolated thrombocytopenia in the second and third trimesters[3,7,8].

We present a case report of immune thrombocytopaenic purpura in pregnancy with an adverse perinatal outcome.

CASE SUMMARY

Mrs. A.F, a thirty year old secundigravida presented at a gestational age of 26 weeks with a week history of bleeding gum, epistaxis, black patches on the chest and forearm. There was history of haematuria and melena stool which necessitated her seeking medical advice. There was no history of generalized bone pain, not a known sickle cell disease and no similar history in the first pregnancy.

There was a preceding history of a low grade fever, catarrh and other flu- like symptoms; however, there was no haemoptysis, vaginal bleeding or trauma. She had episodes of childhood epistaxis that did not require any medical treatment.

There was no family history of similar symptoms. Her last pregnancy was not adversely eventful and she had a vaginal delivery of a live female infant at term. Index pregnancy was also uneventful until the onset of the presenting complaints. The patient was a civil servant with a Higher National Diploma certificate. She was the only wife of her husband. She did not smoke cigarettes and neither took alcohol.

She was acutely ill-looking, afebrile and pale but not jaundiced, with blood coated tongue, generalized ecchymosis and petechiae. There was no significant lymphadenopathy. There was tachypnoea and dyspnoea at rest, though the lung fields were clear. Her blood pressure was 100/60mmHg. She had tachycardia, the first and second heart sounds were heard with no murmurs and a tender hepatomegaly was demonstrable. There was no splenomegaly.

The uterus was enlarged to a size of gestational age of 28 weeks, the lie was longitudinal and fetus was presenting cephalic. The fetal heart rate was 168 beats per minute. There was no vaginal bleeding and the cervix was closed.

She was admitted in the emergency ward. Her packed cell volume at admission was 37%, WBC = 6.9 x10^9/L and platelet count = 9x 10^9/L. There were no abnormal or blasts cells on the peripheral blood film. Coagulation screening tests such as Prothrombin time (PT) and Activated partial thromboplastin time (APTT) were normal. An assessment of Immune thrombocytopaenic purpura to exclude sepsis was made.

The liver and the renal ultrasound scans were normal. Similarly, the obstetric ultrasound scan at admission was normal with a single live intrauterine fetus at 27 weeks with adequate liquor volume.

She was then reviewed with the haematologist and joint management with the obstetric unit included the transfusion of one unit of fresh whole blood daily, oral prednisolone 20mg thrice daily, intravenous cefuroxime 750mg eight hourly and haematinics.

The symptoms continued on admission despite the steroid therapy and the serial PCV check

dropped to 19%. This necessitated blood transfusion and she had a total of 11 pints of blood. Calcium gluconate was given after every 4 pints of blood.

A repeat obstetric scan at gestational age of 32 weeks confirmed an intrauterine fetal death after the patient complained of cessation of fetal movements. She had cervical ripening and induction of labour with misoprostol. She was delivered vaginally of a female stillborn that weighed 2kg . Subsequently, her general condition improved, the bleeding stopped and her packed cell volume and platelet count improved significantly .She was later discharged home on prednisolone and haematinics. At follow up visit, her packed cell volume (PCV) was 37% and platelet count was 130 x10^9/l. Prednisolone was then tailed off gradually until it was completely discontinued. Her last clinic visit to the hematologist was on the 8th June 2011 and her general clinical condition was satisfactory.

DISCUSSION

Immune Thrombocytopenia (ITP) formerly known as Idiopathic thrombocytopenic purpura is a common haematologic disorder caused by evolution of auto- antibodies against platelets. It is mostly due to IgG antibodies(92%), others such as IgM and IgA antibodies are also implicated in few cases. This antibodies coat the platelets leading to their accelerated and premature destruction in the spleen[1,2,3,6]. These platelet associated IgG are considered to be autoantibodies[1,2,6], that also cross the placenta to cause fetal thrombocytopenia in 9-15% of cases[2-6] .In addition to the increased destruction of platelets, there is also suppression of megakaryopoiesis in severely affected patients.

ITP account for 5% of cases of pregnancy associated thrombocytopenia and 1.5% of babies of affected mothers develop intracranial haemorrhage during labour with consequent prenatal mortality in about 20% of cases; intrauterine fetal death is also said to occur occasionally[2,3,5].

ITP is defined as a platelet count of <100 x 10^9/L (100,000/μL) [1], Mrs. A.F. was admitted with a platelet count of 9 x 10^9/L. which was far less than the 100 x 10^9/L

The precipitating factors of ITP include, helicobacter pylori, SLE, Lymphoma, Chronic lymphocytic leukaemia , drugs, viruses such as HIV [1,5] and hyperestrogenaemia of pregnancy is also suggested as a cause[2]. The prior viral infection and pregnancy were the probable precipitants in this patient.

Presentation is common in young women[1,2] and common signs and symptoms as include epistaxis, haematuria, bleeding gums and bleeding from puncture site; petechiae haemorrhages and echymosis[1-3].Mrs. A.F was thirty years old with the above presentation in the third trimester. In pregnancy, plateletet count is lower ,more especially in the third trimester as a result of haemodilution and increased platelet activation and clearance[2].

A history of prior thrombocytopenia and an underlying autoimmune disease make the diagnosis more likely[3].Although, there was no history suggestive of autoimmune disease in Mrs A.F there is a possibility of prior thrombocytopenia that presented as childhood epistaxis which resolved spontaneously and was never linked to ITP. Probably, its recurrence was due to the hyperestrogenaemia of pregnancy and the prior flu-like symptoms flared up an autoimmune response as well. Sometimes, it may be asymptomatic and only detected on routine antenatal baseline investigations[2].

Significant thrombocytopenia in the first trimester, with a declining platelet count as gestation progresses is most consistent with ITP[3]. Index patient was unbooked, so platelet count could not be assessed earlier than the time of presentation. More so, platelet count is not a routine investigation in our centre and except for a high index of suspicion, it would not have been done without the presenting signs and symptoms.

Laboratory investigations should include a peripheral blood film which should be normal except for the presence of severe thrombocytopenia (<50,000/μL) [1, 3, 5]. The peripheral film in the index patient showed PCV of 19% and platelet count of 9 x 10^9/L indicating severe thrombocytopenia. Ultimately the best diagnostic study is the assessment of patient response to ITP therapy[1]. Index patient had only significant response to steroid therapy after delivery; suggesting the role of pregnancy in her presentation.

ITP patients should be jointly managed with the haematologist[3, 7-9] as was done for this patient. Index patient presented with bleeding episodes, PCV of 19% and platelet count of 9 x 10^9/L; this necessitated the transfusion of eleven pints of blood. She also had first line drugs in the management of ITP particularly prednisolone which impairs autoantibody production and inhibit phagocytosis of opsonised platelet[1-6]. Where available, Intravenous immunoglobulin (IVlg) is also used as a first line drug for those with severe thrombocytopenia, it is however very expensive and scarce[1-3,6]. Erythromycin has also been used with good response because of its immunomodulatory effect[10]. Splenectomy as an option of management is indicated in patient who fail to respond adequately to corticosteroid or IVlg within 2-3 weeks; those in whom massive doses are needed and those with frequent recurrences[2,3,6].

A limitation in the management of this patient was the inability to screen for autoimmune disease and demonstration of platelet auto-antibodies because of non-availability of facilities. The absence of blast cells on the peripheral blood film and a normal WBC count excluded a leukaemia. Anti – human globulin test (Coomb's test) was negative and this excluded Evan's test. We were able to investigate the patient within our limited resources and arrive at a reasonable conclusion since ITP is a diagnosis of exclusion and the peripheral blood film and FBC excluded other causes. This supports the current recommendation of baseline investigations in the management of primary immune thrombocytopenia[11,12].

Irrespective of the route of delivery, platelet count of >50,000/μL is needed for delivery and for those undergoing epidural or spinal anaesthesia, a platelet count of > 80,000/μL is required[3,5].

Vaginal delivery is advised and caesarean section should only be for obstetric indication; and any procedure in labour that poses additional bleeding risk in the fetus like fetal scalp electrode, fetal blood sampling and instrumental deliveries should be avoided [4,5,9,11].

While on treatment with prednisolone,the patient noticed sudden reduction of fetal movement with an ultrasound scan confirming intrauterine fetal death (IUFD).IUFD, though rare might have been due to fetal haemorrhage caused by transplacental transfer of platelet associated IgG autoantibodies as a result of the severe maternal thrombocytopenia. A postmortem could have suggested the likely cause of the intrauterine fetal demise but this is not a routinely favoured request in our

environment for cultural reasons. Patient eventually had a vaginal delivery of a macerated stillborn. Patient was continued on prednisolone and peripheral film on follow up visit showed PCV of 37% and platelet count of 130×10^9/L.

ITP is an uncommon but important cause of thrombocytopenia in pregnancy. It is generally not associated with major morbidity if properly managed. Low dose corticosteroids and IV Igs are the mainstay of treatment.

ITP is an uncommon disorder in our environment but caused significant maternal morbidity and perinatal mortality in this patient. In addition, she was a case of near miss mortality. We recommend baseline FBC at booking in our environment so as to identify such uncommon disorders that may contribute to maternal deaths. This becomes crucial when one considers the high maternal mortality rates in our environment; therefore there should be prompt identification of rare but fatal conditions like ITP during antenatal care.

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