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Case Study

Immune Thrombocytopenic Purpura - A Recurrent Case in a Young Lady

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Abstract

Immune thrombocytopenic purpura (ITP) is an isolated condition with low platelet count and normal bone marrow with no other causes of low platelets. ITP can lead to easy or excessive bruising and bleeding because of unusually low levels of platelets, the cells that help blood clot. It can cause purple bruises, as well as tiny reddish-purple dots that look like a rash. We present a case in an adult 24-year-old lady, who presented with acute symptoms of unusually heavy menstrual flow, gum bleeding and Purpura, that was managed by Platelet's transfusion for the second time in 2 years in Jan 2021. Her first episode was identified in her first pregnancy, due to low levels of Haemoglobin and the pregnancy was continued despite contradictory opinions. In the Current episode, her main symptom was per-vaginal bleeding, that worsened, and she had gum bleeding and purpuric rashes on the lower and upper limbs. She was managed with 2 platelet transfusions and Corticosteroid therapy. She recovered after 4 weeks of struggle and is currently normal since 8 February 2021.

Keywords: Immune Thrombocytopenic Purpura (ITP); Platelet; Blood

Introduction

Immune thrombocytopenic purpura is a blood disorder characterized by an abnormal decrease in the number of platelets in the blood and can result in easy bruising, bleeding gums, and internal bleeding. Immune thrombocytopenia may have no signs and symptoms, but sometimes may manifest as, easy, or excessive bruising, Superficial bleeding into the skin that appears as pinpoint-sized reddish-purple spots (petechiae) that look like a rash, usually on the lower legs, Bleeding from the gums or nose, blood in urine or stool or black stool and unusual heavy menstrual flow. If there are no signs of bleeding and platelet count is not extremely low, there may not be a need of any treatment. If symptoms are severe, and platelets count is exceptionally low treatment may include medications like corticosteroids, platelets transfusion to boost platelet count, and sometimes surgery to remove your spleen [1].

In adults, ITP is primarily chronic, with a higher prevalence in women than in men. The prevalence of ITP is 20.3 per 100,000 persons in the United States of America (USA) and 50.29 per 100,000 in the United Kingdom (UK). The incidence of ITP ranges from 2.20 to 3.9 per 100,000 person-years from population-based studies in France, UK, and Japan [1]. The prevalence of adult ITP in India is 9.5/100,000 population in India.

ITP patients have circulating antibodies directed against platelet surface proteins that lead to platelet destruction, primarily by the reticuloendothelial system of the spleen. Signs and symptoms

vary according to the patient's platelet levels. Patients with platelet counts between 30,000 and 50,000 usually present with easy bruising. Patients with platelet counts between 10 000 to 20 000 can have significant petechiae, purpura, or ecchymoses on the skin and mucosal surfaces. Female patients may experience menorrhagia. In cases of extremely low platelet counts, severe fatal bleeding complications, including intracranial haemorrhage and gastrointestinal bleeds, can occur [2].

Types of ITP

TP may be classified as acute or chronic, based on the duration of disease. The acute form lasts less than 6 months and the chronic form lasts longer than 6 months. ITP has been estimated to have a prevalence of 8 in 100 000 in children and 12 in 100 000 in adults, due to chronic nature of the disease in adults. While ITP has been reported to have a higher incidence in young women, the incidence is the same between men and women later in life. ITP in children is clinically distinct from ITP in adults:

- Acute thrombocytopenic purpura mostly seen in young children (2 to 6 years old). The symptoms may follow a viral illness, such as chickenpox. It has a very sudden onset, and the symptoms usually disappear in less than six months (often within a few weeks). Acute ITP is the most common form of the disorder. The disorder usually does not recur.
- Chronic thrombocytopenic purpura - The onset of the disorder can happen at any age, is more commonly seen in adults, and often requires medical treatment. The symptoms can last a minimum of six months to several years. Chronic ITP can recur often and requires continual follow-up care with an haematologist [3].

Case Study

A young lady, of 24 years old presented with symptoms of heavy per vaginal bleeding lasting for 15 to 20 days, followed by purpura on hands and legs, gum bleeding in on 22nd January 2021 to a tertiary level care facility in Hubballi City. Earlier to this episode she was on Ayurvedic medicines and had not undergone any blood investigation for a period of 3 months. After a detailed clinical history, physical examination, and laboratory investigations the diagnosis of recurrent episode of ITP was made as platelets were 5,000/cu mm. She was hospitalized and treatment is given for 4 days and got discharged on 25th January.

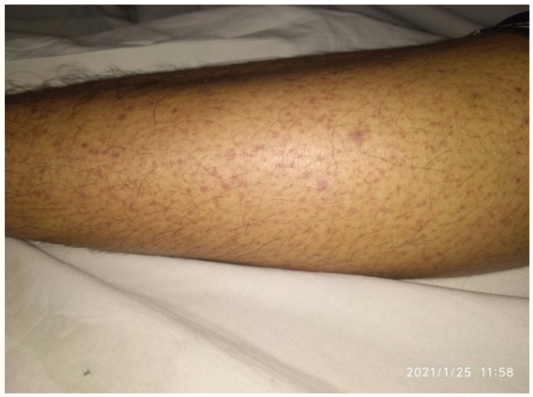

Figure 1

Investigations

I. Platelets were lowered to 5,000lakh/mm^{3}and Hb% was 6.9 on 22nd January 2021.

II. On 23rd platelets were 28,000 lakh/mm^3 and Hb% was 9.2G/dl

III. 5,000 lakh/mm^3 and 4,000 lakh/mm^3 on 24th and 25th January 2021, respectively.

IV. Drug-induced thrombocytopenia was ruled out as there was no history of taking potential drugs like Quinidine, quinine and heparin in the near past.

V. Thrombotic thrombocytopenia purpura (TTP) is a rare, but quite serious blood disease was not considered as this was

Treatment

Immediate Transfusion of 4 pints of platelets was done, after that platelets rose to 28000. But very next day plate count reduced to 5000 again. Intravenous infusion of corticosteroids (Methylprednisolone sodium succinate 500 mg) and Tranexamic Acid 1000 mg were given for 3 days. That brought the situation under control and was discharged from the hospital. Continued the treatment at home with Oral corticosteroids (Prednisolone 20 mg OD) tablet Dapsone (Dapsone PhEur 100 mg OD), Tab. Primolout-N (Norethisterone 10 mg TDS and Tranexamic acid (for heavy menstruation) along with antacids and folic acid tablets for 1 week.

Prognosis

There was an increase in platelet count to 68000 as of 6th February (In 12 days) after transfusion of 4 pints of platelets transfusion and intravenous and oral Prednisolone. Despite the increase in platelets number, she had menstrual spotting per vagina for a week.

Follow-up

Presently she is fine and not has any symptoms. After one month follow-up on 6th March 2021, platelets were 2,50,000 lakh/mm^3 and Hb% was 9.5. Has been advised oral Prednisolone 20 mg 2 tablet OD for a week with reduced doses of 5 mg for every 15 days till 2nd week of April and Tablet Dapsone 100 mg Od.

Next follow-up on 26th April 2021 platelets were 2,02,000 lakh/mm^3 and Hb% was 11.1 G/dl. She is on 5mg of Prednisolone and 100mg Dapsone tablet.

Next follow-up in the 3rd week of June.

About first episode

For the first time in 2018 June, she had heavy per vaginal bleeding lasting for 20 to 25 days followed by purpura on hands and legs and gum bleeding. On investigation HB: 3.8 gm/dl, Platelets: 9000, Bleeding time: 3 min 50 sec, Clotting time: 5 min 40 sec, ESR: 105 mm/hr and UPT: Negative. She was hospitalized under the care of a Haematologist. She was treated with intravenous Methylprednisolone 125 mg BD, Tranexamic acid 500 mg TID for 3 days along with one pint of Platelets and one pint of whole blood. After 2 days Hb% raised to 6.2 gm/dl and platelets 70,000. She was diagnosed as a case of Chronic Thrombocytopenic Purpura. As there were no signs and symptoms seen among other family members investigations were not done. Continued follow-up and management with oral Prednisolone 20 mg from 2 tablets OD to ½ tab from August 2018 to October 2018 and Tab. Dapsone 100 mg OD. Hb% increased to 13.2 gm/dl. But platelets were varied from month to month ranging from 18000 to 99000, and treatment was continued till December and she was fine without any symptoms. No blood investigations were done during October, November, December and January 2019.

In the first week of February 2019, she started with the symptoms like vomiting, general weakness, and nausea. At that time, she was under Ayurvedic treatment and a Urine Pregnancy Test was positive and Platelet count was only 12,000 lakh/mm^3. First USG pelvis (OBG) was done on 21st February 2019 and found that she had a Bicornuate uterus with live intrauterine pregnancy of 8 weeks 5 days in the left horn of uterus and platelets were 19000 lakh/mm^3. She had per-vaginal bleeding in the 2nd, 3rd, and 4th months of pregnancy. Contrary to allopathic doctor's advice (to go for medical abortion) pregnancy was continued. She was managed by joint allopathic and Ayurvedic treatment to maintain a normal count of platelets (Prednisolone 10 mg, Tab. Dapsone 100 mg, Ayurvedic medicines and procedures).

During the 31st week she complained of vaginal watery discharge, was taken to SDM Medical College Hospital, Dharwad, and Caesarean Section along with excision of the septum in the uterus done. Puerperal Copper-T was inserted. Girl baby was born with birth weight of 1.5 kg and had respiratory distress, was shifted to NICU. After staying in hospital for 18 days baby and the mother were stable and got discharged. On discharge her platelets were normal (2,10,000 lakh/mm^3). After 3 months, Copper-T was removed as she had heavy menses. The entire year of 2020, she was fine until the current episode of bleeding per vagina and gum bleeding in January 2021.

Discussion

Population-based studies have shown that ITP has an incidence of up to 6.4 per 100000 children and 3.3 per 100000 adults per year [4]. The disorder is believed to differ biologically between them, although similarities exist. The diagnosis and management of a typical presentation of childhood ITP is usually not difficult. However, thrombocytopenia secondary to other causes can often confound the picture at presentation. Likewise, children who develop chronic refractory thrombocytopenia can be challenging to treat. The prevalence of ITP in adults is 9.5 cases per 100,000. The annual prevalence is estimated at lower 5.3 per 100,000 among children because children with ITP usually recover. Worldwide, it is estimated that there are well over 200,000 people affected by ITP. The incidence of ITP increases with age and is more common over the age of 60. Among adults (age 30-60 yrs.) diagnosed with chronic ITP, there are 2.6 cases among women for every case involving a male. In older adults, about the same number of men and women are diagnosed with ITP. Among children diagnosed with acute ITP, the male to female ratio is also almost equal, with 52% male to 48% female. ITP can occur at any age from 3 months of age to over 100 years [5].

In a prospective study of 40 cases of ITP above 14 years of age admitted to Kasturba Medical College Hospital, Manipal, from November 2005 to March 2007, were screened based on detailed clinical history, physical examination, and laboratory investigations. It concluded that Idiopathic thrombocytopenia was 1.9 times more common in females than males. Most common presentation was bleeding spots (purpura) over body. Bleeding vaginal or gums was common when thrombocytopenia < 30000/mm^3. Corticosteroids and Platelet transfusion were the mainstay in treatment. Splenectomy was the second modality of treatment. Complete and sustained remission is seen 75% of patients [7].

Take Home Message (Conclusion)

- ITP is not a life threatening till as long as level of platelets is maintained.
- Once it reaches to chronic stage, it is exceedingly difficult to manage and may lead to Intracranial Haemorrhage, and heavy bleeding.
- Consultations with Haematologists continued follow up and treatment with cortisones and platelet transfusion are the main stay of minimizing the severity and consequences.
- Eating pattern and healthy lifestyle should be maintained.

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