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RESEARCH ARTICLE

RARE PLATELET DISORDER GLANZMANN THROMBASTHENIA CAUSING ABNORMAL UTERINE BLEEDING A CASE REPORT AND REVIEW OF LITERATURE

Abhay Kumar and Subash Chander Saha

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Abstract

Glanzmann thrombasthenia is a rare genetic disorder. It is of autosomal inheritance. It usually presents as ecchymoses, petechiae, gum bleeding, musical bleeding, and menorrhagia. An acute episode of bleeding can be managed with intravenous antifibrinolytics, blood and blood products transfusion later with hormonal therapy. Newer modalities include Recombinant factor VIIa. A multidisciplinary approach is needed for the diagnosis and management of this disorder.

Introduction:-

Abnormal uterine bleeding is a complaint often presented to the obstetrician-gynecologist, it is estimated to affect 9-14 % of women in the reproductive age group (1). AUB can affect the quality of life and is associated with limited social, academic, and professional activities. In most cases, the cause is readily identifiable but in 20% of women, it might be a sign of underlying coagulation disorder (2).

Glanzmann thrombasthenia is a rare genetic autosomal recessive coagulation disorder (3). It is described as a platelet function disorder with defective clot retraction. It affects megakaryocyte lineage and is characterized by a lack of platelet aggregation. The molecular basis of this disorder is linked to quantitative and/or qualitative abnormalities of αIIbβ3 integrin, the receptor that mediated the incorporation of platelets into an aggregate or thrombus at sites in vessel injury (4). The incidence of Glanzmann thrombasthenia is 1 in million. It mostly presents as purpura, epistaxis, gingival hemorrhage, and menorrhagia and less commonly as gastrointestinal bleeding and haematuria. Menorrhagia is seen in most females as presenting symptom and often results in severe anemia, which requires blood and blood products transfusion.

Case Report:-

A 30-year-old married female presented to us with chief complaints of heavy menstrual bleeding for 15 to 20 days, soaking 7-8 pads per day. On further elicitation, a history of easy bruising, petechiae, gum bleeding, and an increase in bleeding time was present. There was also a history of 2-3 blood transfusions and fresh frozen plasma transfusion 3years back because of severe anemia, but the patient wasn't evaluated at that time. Upon initial evaluation, the patient was alert, oriented, and cooperative and clinically looks pale. Her blood pressure was 90/60 mm hg, pulse rate 120 beats per minute, and respiratory rate 18 per minute. Her physical examination revealed normal heart and lung function. On per abdomen liver and spleen are within normal limits.
On per speculum examination cervix and vagina appears normal and minimal active bleeding was present. Initial investigation showed hemoglobin of 4.1 g/dl, platelet of 1.2 lac, prothrombin time of 12 seconds, and APTT of 32 seconds. The urine pregnancy test was negative. Viral markers were sent and the patient was found to have hepatitis B positive. Ultrasound was done which showed a bilateral cystic lesion of 4x3 cm with homogenous low-level

Corresponding Author:- Abhay Kumar

internal echoes which were suggestive of endometriosis, uterus was normal in size and the liver showed increased echogenicity

Initially, bleeding was controlled with antifibrinolytics and platelet transfusion. The patient received 3 packed red blood cells after an extended crossmatch. Hematology consultation was obtained and additional laboratory investigation was advised such as repeat CBC, liver function test, peripheral smear, von Willebrand screen, and platelet aggregation studies. Laboratory results showed improved hemoglobin of 8.1 g/dl, PT of 13.1 sec, APTT of 25.8 sec, with normal platelet count and morphology and liver function test. The patient's test result was shown to have normal levels of von Willebrand antigen, ristocetin factor, and factor VIII. Platelet aggregation studies revealed abnormal platelet aggregation with a lack of aggregation with ADP, collagen, epinephrine, and arachidonic acid except for ristocetin, which was indicating a diagnosis of Glanzmann thrombasthenia. Flow cytometry assay for platelet function disorder was done and showed reduced expression of CD41 and CD61, markers of GPIIb and GPIIIa respectively but normal expression of CD42b, a marker of GPIb, these finding was consistent with the diagnosis of Glanzmann thrombasthenia. On further evaluation, the patient was found to have chronic hepatitis B, for which hepatology consultation was sought and started on tenofovir.

Our patient received injectable tranexamic acid 500 mg 8 hours for 5 days, Injection leuprolide was given and bleeding was controlled, and the patient was started on a contraceptive pill (Ovral G) and discharged in stable condition.

During the follow-up period patient again had on and off bleeding episodes, for which she underwent endometrial aspiration biopsy followed by MIRENA insertion. Later on, it is expelled spontaneously. Then our patient was started on progesterone and low dose OCP was advised.

Discussion:-

Glanzmann thrombasthenia is a rare genetic disorder with an inheritance of autosomal recessive type. It is more frequent among some ethnic groups, with endogamy owing to overexpression of autosomal recessive genes (5,6). Due to its variable presentation and rarity, it possesses diagnostic difficulty and often management. The management of patients requires a multidisciplinary approach. In the reproductive age group, it is mostly present as heavy menstrual bleeding. Due to its very common presentation and normal blood investigation such as complete blood count and coagulation profile, the diagnosis is often delayed. The goal of the treatment is to control bleeding. Blood and blood products are given to correct anemia. Initially, it is managed by anti-fibrinolytic followed by hormonal therapy. There are other management options such as recombinant factor VIIa, endometrial ablation, GnRH analogues, D&C, uterine artery embolization, and hysterectomy as last resort. There are no clear-cut definitive treatment modalities recommended as the disease is very rare.

Most of the patients receive multiple blood and/or platelet transfusion and should be immunized against hepatitis B. These multiple transfusions result in the production of antibodies to glycoprotein IIb/IIIa and/or HLA antibodies and hence do not respond to transfusion. The patient also develops refractoriness to these transfusions. In patients who develop these antibodies, the only treatment option is plasmapheresis.

The only curative treatment modality is an allogeneic hematopoietic stem cell transplant. However,only a limited number of cases have been reported in the literature with varying degrees of success (7).

Conclusion:-

With the necessary supportive care, the patients with Glanzmann thrombasthenia do well. It usually requires a multidisciplinary approach from diagnosis to management. Treatment modalities are individualized from patient to patient. Being a rare genetic disorder, it poses a challenge for the healthcare professional to manage and can severely affect patient quality of life.

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