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Avatrombopag Induced Thrombocytosis with Transient Ischemic Like Events

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Abstract

Avatrombopag is a small molecule thrombopoietin receptor agonist that mimics the action of thrombopoietin and stimulates the proliferation and differentiation of megakaryocytes, increasing the production of circulating platelets. Its clinical indications are Immune Thrombocytopenic Purpura (ITP) resistant to other treatments (e.g. corticosteroids, immunoglobulin, monoclonal antibody- rituximab, chemotherapy agents) and for patients with severe thrombocytopenia secondary to chronic liver disease undergoing any procedure. It is a relatively new thrombopoeitin receptor agonist, and the preference for it is it does not require dietary restriction as the older counterpart thrombopoeitin receptor agonist, eltrombopag.

We present here a case where a young lady who was prescribed with avatrombopag for ITP resistant to steroids, immunoglobulin and antiCD 20 monoclonal antibody (rituximab) developing thrombocytosis with transient ischemic attack like symptoms, her subsequent management and outcome. This case highlights the uncertain effect avatrombopag has on bone marrow even in case of chronic ITP.

Presentation

My patient is a lady in her 20s with a background medical condition of elevated BMI of 30.1. She initially presented with thrombocytopenia with platelet count of 18. At that point, she had bleeding manifestation of epistaxis for 3 months, but no other bleeding tendencies. She had no recent infections, not febrile. Clinical examination did not reveal any bleeding stigmata. Investigations were sent and her HIV, Hepatitis B, Hepatitis C, EBV, CMV, RF, ANA, anti CCP, Helicobacter Pylori was negative with normal liver and renal function. Her white cell count and haemoglobin were within normal range. She received IVIG 1g/kg body weight for 2 days. With IVIG, her platelet count recovered to 255. One month post IVIG, her platelet count dropped to 39 with no bleeding tendency. She was monitored closely. Three months after her first presentation, her platelet count dropped further to 22, with ecchymosis, she was given IVIG 1g/kg for 2 days. Platelet recovered to 490. During her follow up, her platelet

gradually fell to the lowest point of 59, and she was started on rituximab weekly for 4 weeks. After 4 cycles of Rituximab, her platelet count recovered to 209, and it gradually fell again to 38 after one month, and she developed epistaxis. At this point, decision was made to start her on Prednisolone 60mg daily tapering dose, tapered by 10mg every week. She suffered from a motorvehicle accident for which she sustained non displaced L1 compression fracture, while she was on tapering dose steroids of 20mg daily. She was monitored at our clinic and her platelet dropped further to 30. Decision was made to start her on Avatrombopag as high dose uptitration of steroids may impair her fracture healing. She was initiated on Avatrombopag 20mg OD PO, with platelet count of 30. Her platelet was reviewed 1 week after and her platelet increased to 135. The following week, she complained of left temporal hemianopia that lasted for 10 minutes, and it spontaneously resolved. Platelet count was 977. We withheld her avatrombopag and an urgent MRI brain done showed no ischemia. She was admitted for monitoring and daily platelet counts were sent. Her thrombocytosis did not resolve after her avatrombopag was withheld. Due to concern for another episode of adverse events, she was given hydroxicarbamide 1 g for 3 days and low dose aspirin 75mg prescribed. Her platelet count dropped to 700 after 3 days of hydroxycarbamide and she was reviewed again in the clinic after 1 week. Her platelet count returned to a normal range of 210. The week following that, her platelet count dropped further to 33 and we restarted on Avatrombopag 20mg OD, and her platelet rose up to 478 and her avatrombopag was held and after 1 week and rose further to 666 while not on treatment. She was then prescribed aspirin 75mg OD. Her platelet dropped to 147 after 2 weeks while not on avatrombopag. We then started her on avatrombopag 20mg three times a week. She has achieved a stable platelet count of 50-80 on this dose.

Discussion

This case report highlights that while Avatrombopag is highly effective at increasing platelet counts for patients with immune thrombocytopenia, initial monitoring of response is crucial. It is also important to identify if patients should be titrated on the dose of avatrombopag in a slower and lower dose fashion.

Declaration of Conflicts of Interest:

None declared.

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