Thrombocytopenia as Harbinger of Graves’ Disease: A Rare Presentation

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Sir,

Graves’ disease is an autoimmune form of primary hyperthyroidism. It presents with various clinical features like eye signs, tachycardia, weight loss, skin changes etc. However, initial presentation of Graves’ disease with a haematological abnormality like thrombocytopenia is very rare.

We are reporting the case of a 32 years old woman, who presented initially to her physician with sustained heavy menstrual blood loss three months ago before presenting to us. Complete blood count done at that time revealed platelet count of 6,000/µL. Her white blood cell count and haemoglobin concentrations were within normal limits. There was no history of fever or joint-pain preceding the illness. She needed platelet transfusion at the local hospital. Next month she developed petechial rashes and needed 26 units of platelet transfusion. Once her condition stabilized, she was referred to our hospital for further evaluation.

At presentation to us she was emaciated, had mild pallor and a few old bruises over the trunk. Her pulse rate was 130/minute and blood pressure 130/89 mmHg. There were no lymph node enlargements, hepatosplenomegaly or sternal tenderness. There were no clinical features suggestive of any rheumatological condition. There were no goitre or ocular signs. She had been administered progesterone, tranexamic acid, multivitamins and pantoprazole tablets over the last three months. She had been started on oral corticosteroids for the last two weeks before coming to us based on a provisional diagnosis of autoimmune thrombocytopenic purpura (AITP).

Initial laboratory work up done in our hospital revealed haemoglobin of 5.9g/dl, total leukocyte count of 8,600/µL (normal differential count and no abnormal cells) and platelet count of 20,000/µL. Erythrocyte sedimentation rate was 50 mm in first hour. Serum ferritin was 12ng/ml. Antinuclear factor was negative, liver and kidney function tests were within normal limits. Ultrasonography of abdomen did not reveal any evidence of chronic liver disease or any mass lesion. Viral serology was negative. In view of her emaciated condition and tachycardia, thyroid function was requested. Her was TSH 0.006 µIU/ml (N: 0.5—4.5), total T3 220.05 ng/dl (N: 80—180) and total T4 14.6 (N: 4.6—12 µg/dl). Ultrasonography of neck revealed diffuse enlargement of thyroid gland with increased vascularity and technetium scan of the thyroid gland showed generalized increased uptake of the radiotracer (figure 1). She was diagnosed with Graves’ disease and started on oral carbimazole 15 mg per day along with propranolol tablets 30 mg per day. As it was still not known whether her thrombocytopenia was related to Graves’ disease, bone marrow study during follow up was planned if thrombocytopenia did not resolve.

During follow up at one month her platelet count had gone up to 80,000/µL. There had been no new bleeding episodes. Her body-weight had also increased by 3 kg. She has been on Anti-thyroid medication for the last three months and has maintained platelet count of 1, 20,000 to 1, 40,000/µL. Her thrombocytopenia seems to be related to Graves’ disease.

There have been case-reports of thrombocytopenia as initial presentation of Graves’ disease.1 In some cases patients diagnosed with AITP developed primary hyperthyroidism during follow up.2 In the work up of a case of thrombocytopenia, thyroid function test is not done unless the patient presents with florid signs like ophthalmopathy or goitre. In the absence of these signs, high degree of clinical suspicion is needed to diagnose the underlying Graves’ disease.

The underlying pathophysiology of the association of the two conditions is not clear. Cordiano et al. found that approximately 80% patients with hyperthyroidism and thrombocytopenia had platelet autoantibodies.2

In patients with Graves’ disease presenting with thrombocytopenia platelet count responds to anti-thyroid therapy.3 Our patient had a significant rise in platelet count following carbimazole therapy and became transfusion independent.

We are reporting this case to make clinicians aware of this rare association. In a case of refractory thrombocytopenia when the usual secondary causes are negated, a thyroid profile may be of help in diagnosing Graves’ disease. In this situation use of Anti-thyroid medication corrects thrombocytopenia.

References