Doi: 10.32677/IJCR.2015.v01.i02.006 **Case Report**

A case of severe hypothyroidism presenting only with bleeding diathesis

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ABSTRACT

Hypothyroidism can present with the variety of clinical features; however, bleeding manifestations as a sole presentation of hypothyroidism is extremely rare. Hemostatic disorder may be a manifestation of several underlying etiology. Here, we report a case of a 14 year old girl who initially presented with bleeding diathesis without any other symptoms suggestive of thyroid dysfunction but later on investigations was found to be suffering from severe hypothyroidism.

Keywords: *Activated partial thromboplastin time, Bleeding diathesis, Hypothyroidism,*

Hemostatic balance is a system where the delicate equilibrium is regulated by several factors, including hormones. The strong relationship between thyroid hormones and the coagulation system has been appreciated for a very long period of time [1]. Several biological mechanisms were proposed to explain this intriguing association, including effects of thyroid hormones on synthesis of coagulation factors as well as thyroid-related autoimmune processes, involving the hemostatic system [2].

CASE REPORT

A 14 yr old girl presented to endocrinology outpatient department (OPD) of our hospital with easy bruising involving upper limb, trunk and lower limb for the last 6 months. She was apparently well 6 months back, when she developed bruises over right lower limb following mild trauma. Since then she has developed several bruises spontaneously involving all over the body. There was no history of trauma, fever, gum bleeding, haematuria, melaena, haemoptysis, and pain in abdomen, bone pain, or drug intake of any kind. She had started menstruating at the age of 12 yrs and she had no complaints of menstrual abnormality in any form. There was no past and family history of any bleeding diathesis; although, family history of thyroid dysfunction was present.

On examination, she was of average built and nutrition with normal intelligence. Her vitals were normal with pulse rate of 63/min, respiratory rate of 22/min and blood pressure of 110/70 mm-Hg. Her general examination revealed multiple bruises of varying size all over the body. There was no evidence of any mucosal bleed. She had mild pallor but no jaundice, cyanosis, clubbing, lymphadenopathy or oedema. Rest of the general examination including ophthalmic and ear, nose and throat examination was normal. Her systemic examination was normal and there was no organomegaly. A provisional diagnosis of bleeding disorder was made.

On laboratory investigations, she was anaemic with normal total and differential leukocyte count and normal platelet counts (150×10^3/µl). On peripheral smear examination, anaemia was predominantly macrocytic normochromic type. Coagulation studies revealed normal

bleeding time (2 min; normal <7 min), and clotting time (7 min; normal 3-8 min), with mildly elevated prothrombin time (16.6 seconds; normal 11.4- 13.7 sec, INR of 1.34) and activated partial thromboplastin time (50.8 sec; normal 27-40 sec). Her liver and kidney function tests were within normal limits. Her von Willebrand factor (vWF) assay, done to investigate the cause of increased APTT, was also normal. Assessment of other intrinsic factors was not done as there was no family history and patient was a female.

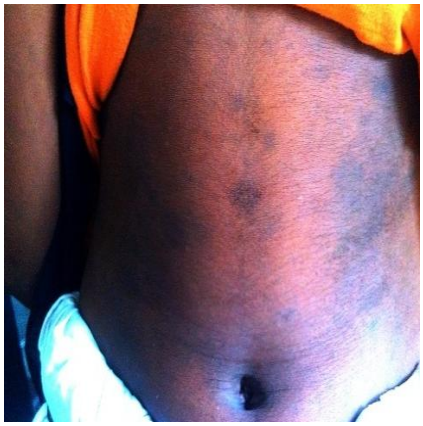

Figure 1: Clinical photograph of the patient showing bruises all over the anterior aspect of the abdomen.

As subclinical hypothyroidism is a common problem in this region and association between coagulation disorder and thyroid dysfunction is known, thyroid function test were done. Her thyroid stimulating hormone (TSH) level was very high (940 µu/ml; normal - 0.5-4.94), and free thyroxine (FT4) was low (0.13ng/dl; normal - 0.8-1.34). Test for anti-thyroid peroxidise (TPO) antibodies was positive (290.90; normal - <60).

She was diagnosed as a case of hypothyroidism and levothyroxine replacement therapy (75 µg/day) was started which was increased to 100µg/day after 2weeks. On followup after 4 weeks, her bruises had decreased significantly and no new bruise had appeared. Repeat coagulation profile also became normal.

DISCUSSION

In our case, hypothyroidism presented with bleeding diathesis only and the only clues were high MCV, low heart rate and family history of thyroid dysfunction. It is well known now that haemostatic disorders occur in patients with hypothyroidism. Hypothyroidism can results in acquired vWD [3,4], qualitative platelet abnormalities [5], reduction in factors VIII, IX and X [6], acquired hemophilia A (due to auto-antibodies against FVIII as a part of autoimmune process associated with hypothyroidism) [7], and increased fibrinolytic activity in overt hypothyroidism and anti-fibrinolytic activity in sub-clinical hypothyroidism [8].

However, our case was worthy of reporting as bleeding manifestations as the first and the only presentation of undiagnosed hypothyroidism has not been reported in literature so far, which was seen in our case. Clinical manifestations of hypothyroidism in such cases may be absent, subtle or may be missed. In our patient, cause of altered coagulation profile was found to be only hypothyroidism as other cause including platelet function disorders and vWD were ruled out. Young age may be an important factor for the asymptomatic nature in this case. Our diagnosis was also supported by the correction of coagulation parameters after replacement with levothyroxine.

Haemostatic dysfunction in hypothyroidism can be due to hypofunctioning of clotting factors as thyroid has permissive role on almost every metabolic activity in body. On the other hand, autoimmunity might be playing regulatory role for underlying clotting abnormalities prolonging APTT.

CONCLUSION

Thyroid function should be screened in an individual presenting with bleeding disorder as haemostatic disorder associated with hypothyroidism reverses with levothyroxine replacement.

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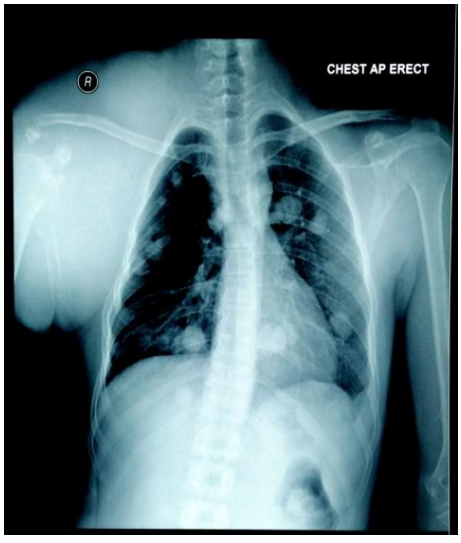
Spot the diagnosis

A 16 year old male patient presented to us with huge swelling over right shoulder region for last six months. The swelling was massive, boggy, and irregular with variable consistency involving scapular region chiefly. The veins over the swelling were prominent while the local temperature and tenderness were not remarkable. The chest radiograph of the same patient revealed characteristic multiple calcifications on bilateral lung fields.



QUESTIONS:

1. What is the classic chest radiograph finding?
2. What are other differentials?
3. Are these lesions primary in origin?

Check Page number 57 for answers.