Bloody tears and hematohidrosis in a patient of PF3 dysfunction: a case report
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Abstract

Introduction: Abnormal bleeding may result from deficiency of one of the clotting factors.

Case presentation: A 13-year-old Indian girl, presented with a history of bleeding following minor injury, epistaxis, and hematuria, bleeding from gums, subcutaneous bleeding and gastrointestinal tract bleeding. She underwent a complete coagulation profile test, CT scan and ultrasound. Platelet Factor 3 dysfunction was diagnosed to be the cause of bleeding. Patient was transfused fresh frozen plasma and platelet as part of treatment. Condition of the patient after four months of diagnosis deteriorated and she started bleeding in tears and sweat.

Conclusion: A thorough examination and proper workup are necessary to determine the exact cause and rule out serious conditions.
bleeding, gastrointestinal bleeding which she regurgitates and collects in her oral cavity, prolonged bleeding after minor trauma and history of epistaxis. Patient later developed conjunctival hemorrhage leading to bloody tears and hematohidrosis. There was no family history of bleeding. The complete coagulation profile [8] is normal except PF 3 (Table 1). Platelet count is normal (1.95 lacs/cmm).

### Discussion

Subconjunctival hemorrhage and hematohidrosis observed as the secondary presenting clinical feature of PF3 dysfunction for the first time in the present study. Sodhi and Jose [5] earlier reported subconjunctival hemorrhage for the first time in a case of idiopathic thrombocytopenic purpura. The glycoprotein la/IIa of platelet membrane plays a major role in platelet function as a primary receptor for collagen [9]. Chief Medical Examiner of Rockland Country, New York [10] has explained that around the sweat glands, there are multiple blood vessels in a net-like form. Under the pressure of great stress, the vessels constrict. Then as the anxiety passes, "the blood vessels dilate to the point of rupture and the blood goes into the sweat glands." As the sweat glands are producing a lot of sweat, it pushes the blood to the surface – coming out as droplets of blood mixed with sweat. It is still not clear how PF3 dysfunction relates with bloody tears and hematohidrosis. Further research in this direction is required to unearth the reason for unusual bleeding.

### Conclusion

A case of PF3 dysfunction shows an unusual clinical secondary entity of hematohidrosis and bloody tears for the first time. It can be very complicating for the clinician. A thorough examination and proper workup are necessary to determine the exact cause and rule out serious conditions.

### Consent

Parents of the patient gave the written informed for publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

### Competing interests

The author declares that there are no competing interests with any author.

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**Table 1.** Table shows patients complete coagulation profile

| Investigations       | Control (secs) | Test (secs) |
|----------------------|----------------|-------------|
| Prothrombin Time (PT) | 14             | 14          |
| Activated Partial Thromboplastin | 24           | 24          |
| Time (APTT)          |                |             |
| Thrombin Time (TT)   | 11             | 11          |
| Bleeding Time (BT)   | 2-7 minutes    | 2 mins 45 secs |
| Platelet Function (PF 3) | 30         | 41          |

**Authors’ contributions**

KLM was solely responsible for conducting, writing and editing this manuscript.

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