

**LABORATORY TESTING FOR PLATELET FUNCTION DISORDERS :  
Our own experience in CHTS ANNABA**

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**Introduction:** Platelet function disorders (PFD) are an important group of bleeding disorders that require validated and practical laboratory strategies for diagnosis.

**Objectif :** The aim of this study is to present our experience in diagnosing PFD using the technique of aggregometry by Light transmission variation, while describing the epidemiological, clinical, and biological profiles of patients diagnosed at the CHTS Annaba. However some cases have been confirmed by flow cytometry.

**Methods and patients :** This retrospective and descriptive study was conducted at the CHTS of Annaba over a period of two years ( from September 1, 2022, to September 1, 2024) The study of platelet aggregation was performed using an SDMedical TA-8V aggregometer. This test was conducted on platelet-rich plasma with four agonists : ADP, Arachidonic acid, Ristocetin and collagene (first step agonist). The Beckman coulter FC500 automate system for flow cytometry using CD41, CD61, CD42a and CD42b as markers was used to quantify glycoproteins. 41 patients with a normal platelet count and a normal Hemostasis workup (PT, aPTT) presenting with undiagnosed bleeding disorders (Petechia/Easy bruising/Epistaxis /Gingival bleeding) were tested for PFD.

**Results & Discussion :**

Among the 41 patients referred: 06 patients show a markedly reduced aggregation with ADP :

**Patient on clopidogrel.** 06 patients show an absence to all agonists except Ristocetin: **Glanzmann's Thrombasthenia**, which **04** cases of them are confirmed by quantification of **GpIIb/IIIa glycoprotein (<5%) on flow cytometry.**

02 patients show an absence agglutination with Ristocetin: **Bernard Soulier syndrome**, which **01** case of them was confirmed by flow cytometry **anomaly of GPIbIX.**

02 patients show an absence of aggregation to Arachidonic acide and a primary wave aggregation only with ADP: **Patient on Aspirin.** 02 patients show à primary aggregation only with ADP and collagene and only partial agglutination with Ristocetin: **Platet release defect.**

07 patients show an absence of aggregation to 02 or more agonists in one test but it was corrected in the second test (**considerated as false positif result**)

**Conclusion:** Our study highlights that the platelet aggregation assays (light transmission aggregometry LTA) still a test with high performance characteristics « **GOLD STANDARD** ». This test combined to flow cytometry technique can detect all abnormalities related to PFD.

