

Factors influencing bleeding severity in adult patients with primary immune thrombocytopenia

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Objective

Immune thrombocytopenia (ITP) is characterized by low platelet counts and associated with an increased bleeding risk. Still, bleeding severity in ITP patients differs individually and is not only determined by the platelet count. We investigated bleeding severity and bleeding manifestations in a cohort of adult patients with primary ITP.

Patients and Methods

Patients with primary ITP were included in two haematological centers after written informed consent (EC 1843/2016). Bleeding severity was assessed with the ISTH ITP BAT (BS).¹

Results

Eighty-four patients (66.7% female) were included in the study (Table 1). The median BS [IQR] was 1 [0-3], with the highest score in the category skin. The most common bleeding manifestations were petechiae (26.8%), bleeding from small wounds (25.6%), and menorrhagia in women (25.9% of women). The median BS [IQR] was higher in patients with a platelet count $\leq 50 \times 10^9/L$ versus those with $> 50 \times 10^9/L$ (1.5 [1-7] and 1 [0-2]), in both, the categories skin (1 [0-3] and 0 [0-1]) and mucosal bleeding (0.5 [0-2] and 0 [0-0.5]).

There was no difference in the BS according to sex, blood group O, chronic ITP, splenectomy status, or current ITP treatment. Of note, patients with bleeding symptoms at ITP onset had a higher BS compared to those without (2 [0-5] and 0 [0-1]). In a multivariable linear regression analysis, duration of disease (β 0.009, 95%CI 0.001-0.016), and the immature platelet fraction (IPF, β 0.185, 95%CI 0.043-0.327) were independent predictors of the BS, whereas the platelet count, sex, age, BMI and blood group O, and sP-selectin were not associated with bleeding severity in our cohort of primary ITP patients.

Conclusion

Bleeding severity in our cohort of ITP patients was generally low and predicted by IPF and the disease duration of ITP. This might indicate that ITP caused by high platelet destruction is more prone to bleeding.

References

1. Rodeghiero F, Michel M, Gernsheimer T, et al. Standardization of bleeding assessment in immune thrombocytopenia: report from the International Working Group. *Blood*. 2013;121(14):2596-2606.

Table 1. Patients' clinical characteristics

	n	n1	%
Epidemiology			
Female	84	56	66.7
BGO	78	26	31.3
Duration of ITP			
Acute ITP	75	13	17.3
Persistent ITP	75	9	12.0
Chronic ITP	75	53	70.7
Therapy			
Current ITP treatment	80	33	41.3
Previous ITP treatment	80	58	72.5
Splenectomy	80	13	16.3
Bleeding			
ITP BAT BS >0 at inclusion	82	52	63.4
Bleeding at diagnosis	80	52	65.0

n, number of patients of whom data is available; n1, number of patients with the respective characteristics; ITP, primary immune thrombocytopenia; BAT, bleeding assessment tool; BS, bleeding score; BGO, blood type O

Table 2. Patients' clinical and laboratory characteristics

	n	median	25-75 percentile
Epidemiology			
Age, years	84	40	30-55
BMI, kg/m ²	79	25.4	22.9-29.7
Disease history			
Disease duration, months	75	60	9-130
Number of previous ITP treatments	80	1	0-2
ITP BAT BS total			
Skin	82	1	0-2
Mucosa	82	0	0-1
Organ	82	0	0-0
Laboratory characteristics			
Hemoglobin, g/dL	83	13.7	12.7-14.6
Platelet count, $\times 10^9/L$	83	62	29-120
IPF, %	67	12.7	6.0-17.2

n, number of patients of whom data is available; ITP, primary immune thrombocytopenia; BAT, bleeding assessment tool; BS, bleeding score; BMI, body mass index; IPF, immature platelet fraction