Letter to the Editor

Is Mean Platelet Volume Increased in Behcet's Disease with Thrombosis?

Woong Soo Lee¹ and Think-You Kim¹¹Department of Laboratory Medicine, Hanyang University Hospital, Seoul, Korea

Dear the Editor,

We have been interested in the mean platelet volume (MPV) measured by automated cell analyzer and were studying on the correlation between MPVs and various diseases (Lee and Kim 2010a, 2010b, 2010c).

In the meanwhile, we read the article by Acikgoz and colleagues on the increased MPV in Behcet's disease (BD) with thrombotic tendency (Acikgoz et al. 2010). In this article, the authors stated that MPV was significantly higher in patients with BD compared to the control groups.

Table 1. Comparison of the laboratory parameters of BD patients and controls.

	Controls (n = 220)	BD (n = 105)	P-value ¹
Age	45.55 ± 9.96	41.1 ± 10.9	
WBC (× 10 ⁹ /L) ²	5.95 ± 1.60	7.71 ± 2.25	< 0.001
PLT (× 10 ⁹ /L) ²	240.80 ± 49.94	271.50 ± 63.22	< 0.001
MPV (fL) ²	10.50 ± 0.77	9.97 ± 0.91	< 0.001

¹) Student's *t*-test for comparing control groups with Behcet's disease.

²) Measured with Sysmex XE-2100 automatic cell counter (Sysmex, Kobe, Japan).

BD, Behcet's disease; WBC, white blood cell; PLT, platelet count; MPV, mean platelet volume.

BD occurs most frequently between latitudes 30° and 45° north in Asian and Eurasian populations an area that coincides with the Old Silk Route and its clinical manifestations are recurrent oral ulcers, genital ulcers and ocular disease (Mendes et al. 2009). We aimed to observe whether MPV are helpful to distinguish BD from control groups and BD patients with various clinical manifestations. So, we measured MPV in 220 (female: 85) healthy control groups, 105 (female: 73) patients in BD. The healthy control candidates were selected among healthy people who visited the Health Promotion Center of Hanyang University Hospital for the purpose of regular checkups without any pathologic conditions who were later confirmed to have no abnormal findings. Blood samples were drawn at the time of initial diagnosis and complete blood cell count analyses were performed with Sysmex XE-2100 automated cell counter (Sysmex, Kobe, Japan). We collected blood in tubes containing ethylene diamine tetracetetic acid and analyzed the samples within one hour. The method of measuring MPV was electrical impedance measurement. The BD patients were divided into subgroups with or without each clinical manifestation of thrombosis, genital ulcer and uveitis.

MPV was lower in patients with BD than control groups (Table 1). There was no difference in white blood cell (WBC) and MPV in BD patients with or without clinical manifestations such as thrombosis, genital ulcers (Table

Table 2. Comparison of the laboratory parameters of BD patients with and without clinical manifestation.

	Thrombosis ¹ (+) (n = 7)	Thrombosis (-) (n = 98)	P-value ²	Genital ulcers (+) (n = 59)	Genital Ulcers (-) (n = 46)	P-value ³
Age	33.4 ± 14.7	41.3 ± 11.2		39.6 ± 10.5	42.9 ± 11.4	
WBC (× 10 ⁹ /L) ⁴	6.86 ± 2.62	7.64 ± 2.20	0.527	7.48 ± 2.23	8.01 ± 2.26	0.304
PLT (× 10 ⁹ /L) ⁴	313.7 ± 156.1	270.8 ± 63.9	0.152	274.8 ± 66.5	267.3 ± 59.2	0.766
MPV (fL) ⁴	9.51 ± 0.76	9.98 ± 0.92	0.320	9.93 ± 1.04	10.02 ± 0.71	0.841

¹) Diagnosis was based on clinical findings, angiography or Doppler ultrasonography.

²) Student's *t*-test for comparing Behcet's disease with and without thrombosis.

³) Student's *t*-test for comparing Behcet's disease with and without genital ulcers.

⁴) Measured with Sysmex XE-2100 automated cell counter (Sysmex, Kobe, Japan).

BD, Behcet's disease; WBC, white blood cell; PLT, platelet count; MPV, mean platelet volume.

Received October 1, 2010. doi: 10.1620/tjem.222.225

Correspondence: Think-You Kim, M.D., Department of Laboratory Medicine, Hanyang University Hospital, 17 Haengdang-Dong, Seongdong-Gu, Seoul, 133-792, Republic of Korea.
e-mail: tykim@hanyang.ac.kr

2) and uveitis (data are not shown). In contrast, Acikgoz et al. (2010) reported that MPV was higher in patients with BD than in controls, which is the opposite of our results. They also argued that MPV was larger in patients with thrombosis than those without thrombosis, but our results showed no difference in MPV.

In conclusion, MPV is lower in patients with BD than the control groups and the BD patients without thrombosis show no significant difference in WBC and MPV when compared to the BD patients with thrombosis.

References

- Acikgoz, N., Karıncaoglu, Y., Ermis, N., Yagmur, J., Atas, H., Kurtoglu, E., Cansel, M., Barutcu, I., Pekdemir, H. & Ozdemir, R. (2010) Increased mean platelet volume in Behcet's disease with thrombotic tendency. *Tohoku J. Exp. Med.*, **221**, 119-123.
- Lee, W.S. & Kim, T.Y. (2010a) Platelet indices are not suitable for screening of leukemia. *J. Pediatr. Hematol. Oncol.*, **32**, 251.
- Lee, W.S. & Kim, T.Y. (2010b) Mean platelet volume and platelet distribution width are useful in the differential diagnosis of aplastic anemia and idiopathic thrombocytopenic purpura. *Clin. Chem. Lab. Med.*, [Epub ahead of print].
- Lee, W.S. & Kim, T.Y. (2010c) Alcoholic fatty liver diseases and alcoholic liver cirrhosis may be differentiated with mean platelet volume and platelet distribution width. *Platelets*, **21**, 584-585.
- Mendes, D., Correia, M., Barbedo, M., Vaio, T., Mota, M., Goncalves, O. & Valente, J. (2009) Behcet's disease—a contemporary review. *J. Autoimmun.*, **32**, 178-188.