79. A Finding of Rare B_m Bloodtype in Japanese

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The frequency of the subgroups B_1 and B_2 among Japanese has often been reported. Recently, the phenotypes B_x and B_y were also discovered.^{1)~7)}

During the mass ABO grouping, the authors found a blood sample which gave red cell reactions characteristic of group O, while the serum behaved as of group B. Further investigations indicated that the blood was a variant of B corresponding to B_m of Liotta *et al.*⁸⁾

Serological Findings. The propositus is a healthy adult, Mr. Ha, who has never received a blood transfusion. Suspension in saline of his red cells failed to be agglutinated either by a high titre (1:1024 with normal group B red cells) human anti-B serum nor by an anti-B serum prepared by immunizing sheep with human group B red cells, furthermore, it failed to be agglutinated by any of the more than 25 anti-A+B (group O) sera used. Enzyme techniques (ficinized red cells or bromelin method) did not alter the results.

The indirect antiglobulin test was also negative. The red cells after exposure to anti-B serum, however, yielded eluate of anti-B specificity, the titre of which was 1:4 in saline.

In the tests against titrations of an anti-H reagent prepared from *Ulex europaeus* seeds, the red cells of Mr. Ha reacted more strongly than do normal group B cells and about the same as the group O cells.

The serum of Mr. Ha contained anti-A but no anti-B agglutinins.

As would be expected, both B and H substances were secreted in his saliva; the amount of the substances was almost the same as that of a group B secretor.

These findings agree with those of B_m described by Liotta *et al.* in 1961.

Pedigree Studies. The ABO and Lewis groups and the secretor characters of the family of Mr. Ha are given in the following figure. Red cells from most of the family members were also tested for the MN, Rh, Kell-Cellano, Kidd, and Lutheran groups and there was nothing remarkable about these groups. As seen in the figure and the table, twelve people in this family had the same characteristics (two-

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were AB_m and ten B_m).

From the family data B_m described in this paper seems to be caused by one of the ABO alleles rather than by any supressor gene.

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The blood groups in individual member of S. Family

Generation Individual		Lewis				Rh-Hr				Kell Cellano		Kidd	Luth- eran
		ABO	MN	Le(a)	C	c	D	E	e	K k	Jk (b)	Lu (a)	
II	3	B _m	MN	+	+	—	+	+	+	—	+	+	—
	6	B _m	M	+	+	+	+	+	+	—	+	+	—
	7	B _m	MN	+	+	—	+	—	+	—	+	+	—
	9	B _m	M	—	+	—	+	—	+	—	+	+	—
	11	AB _m	MN	.	.	.	.	.	.	.	.	.	.
	13	B _m	M	+	+	+	+	—	+	—	+	—	—
	17	AB _m	M	—	+	+	+	+	+	—	+	+	—
III	6	B _m	MN	—	+	+	+	+	+	—	+	+	—
	7	B _m	MN	—	+	+	+	+	+	—	+	+	—
	8	B _m	MN	—	+	+	+	+	+	—	+	+	—
	10	B _m	MN	+	+	+	+	+	+	—	+	+	—
	15	B _m	MN	—	+	—	+	—	+	—	+	+	—

References

- 1) Masaki, N., *et al.*: Hanzaigaku Zasshi, **9**(4), 467 (1935).
- 2) Suzuki, T.: Jap. J. Legal. Med. and Crim., **6** suppl. (1), 34 (1958).
- 3) Murakami, S.: J. of the Jap. Blood Transf., **8**(2), 181 (1962).
- 4) Yokoyama, M., *et al.*: Vox Sang., **2**(5), 384 (1957).
- 5) Kitahama, M.: J. of the Jap. Blood Transf., **10**(3-5), 198 (1964).
- 6) Furukawa, K., *et al.*: The First Asian Congress of Blood Transfusion, p. 80 (1963).
- 7) Nakajima, H., *et al.*: J. of the Jap. Blood Transf., **9**(1), 39 (1962).
- 8) Liotta, I., *et al.*: Vox Sang., **6**(6), 686 (1961).