



Title	DEVELOPMENT AND DISTRIBUTION OF PEYER'S PATCHES IN THE MOUSE
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Citation	Japanese Journal of Veterinary Research, 39(1), 69-69
Issue Date	1991-05-30
Doc URL	http://hdl.handle.net/2115/3258
Type	bulletin (article)
File Information	KJ00002377489.pdf



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DEVELOPMENT AND DISTRIBUTION OF PEYER'S PATCHES IN THE MOUSE

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The development and distribution of Peyer's patches in the small intestine of the mouse were investigated macroscopically and histologically.

At day 15 of gestation, Peyer's patches were not present, but were found histologically after 17 days. Within the first 24 hours after birth diffuse distributions of lymphocytes were noted in the Peyer's patches. At 3 days, aggregations of lymphocytes and intraepithelial lymphocytes were found, and at 5 days, lymphoid follicles and inter-follicular areas were divided. At 7 days, distributions of high endothelial venules were noted in the interfollicular areas, at 28 days the tingible-body macrophages appeared and at 34 days, the germinal centers were visible. Thus the typical appearance of Peyer's patches in the mouse is developed by 17 days of gestation, and histologically they mature in structure at 34 days after birth.

Macroscopically, Peyer's patches were recognizable at 13 days after birth. The mean number of Peyer's patches was still fewer than at 17 days of gestation. From 19 days of gestation onwards the number ranged from 6 to 15.

Considering the distribution of Peyer's patches in the small intestine, it was found at almost all ages examined that Peyer's patches were more numerous in the distal portions i. e. at 10–20 % and 70–100 % of the length along the small intestine.

These results suggest that the position of Peyer's patches and their distribution are fairly stable in peri- and postnatal mice and that the occurrence of the Peyer's patches in the mucous areas of the small intestine may be due to some local intestinal microenvironmental factors inducing a settlement of the mucosal immune system on the mucous membrane during perinatal development.