

EFFECT OF MALARIA INFECTION AND DEXAMETHASONE ON SPLEEN MORPHOLOGY AND HISTOLOGY

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Abstract. The purpose of this study was to determine the histopathological changes of the spleen caused by parasite infection and steroid use to investigate pathological effects due to infection in ICR mice. The mice were divided into 5 groups: non-malaria infected mice served as controls, mice with parasite infection only, and the other three groups; mice that were injected with dexamethasone (Dex) only, mice injected with Dex prior to and mice injected with Dex after malaria inoculation. Differences in spleen color between the groups were found. Compared to controls, malaria infected mice, and those injected with Dex only were significantly different ($p < 0.05$) in spleen weights and sizes. Histological changes were also seen in these two groups. Fused white pulps were found in the spleens of mice infected with malaria only, clear zones of white and red pulp were observed in the spleens of mice treated only with Dex; fibrinoids were also found in this group. The histology of spleens appeared normal except for infiltration by numerous megakaryocytes in the spleens of mice given Dex before or after parasite inoculation. Infection with malaria and use of Dex leads to destruction of typical features of spleen morphology and histology. However, uptake of Dex after malaria infection seems to reverse the pathology of the spleen.

Key words: malaria, dexamethasone, spleen, histology

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