

# Effect of Chronic Dexamethasone Treatment on Histomorphology of Main Lymphoid Organs in Mice

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**Abstract:** *Glucocorticoids (GCs) are one of the most important regulatory hormones in the human body. Glucocorticoid hormones have been widely used in clinical practice as potent anti-inflammatory and immunosuppressive agents. Dexamethasone is a synthetic glucocorticoid. It is frequently used as a medication to treat a variety of inflammatory conditions and metabolic problems in both humans and farm animals. The side effects of long-term dexamethasone treatment have become a major source of concern. In the present study the effect of chronic dexamethasone treatment on histomorphology of main lymphoid organs in adult male mice was assessed. Involution of thymus and spleen was prominent with a significant reduction in organ weight and organ/body weight ratio. Thymus histology showed severe atrophy and fatty infiltration. The size and density of thymocytes in cortex as well as in medulla was reduced. In spleen, disorganized white pulp with reduced splenocyte density and size was observed. The results of the present study highlight the effects of DEX treatment on histopathology of lymphoid organs thymus and spleen. Hence long-term use of dexamethasone may be a risk factor for the development of immune related disorders.*

**Keywords:** Glucocorticoids (GCs), Dexamethasone, Lymphoid organ, Thymocytes, Splenocytes, Atrophy, Mice