

## A New Model for Toxopathologic and Biomedical Research in Gout

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Gout has been characterized by the deposition of monosodium urate crystals in the joints and soft tissues. It is a heterogeneous disorder that can progress through four clinical phases if untreated: asymptomatic hyperuricemia, acute/recurrent gout, intercritical gout, and chronic tophaceous gout. The objective of this study was to recruit a new animal model for in-depth toxopathologic study of gout. A broad range investigation was carried out to delineate the physiological, hematological and toxopathologic changes in gout, induced by Sodium bicarbonate (SBC), in Korean native broilers. Sixty chicks, aged 2 weeks, were divided into three groups. The exposed birds received excess SBC: 20g/l (Group A), 40g/l (Group B) while group C served as control. Toxopathologic and microscopic examination of exposed birds in group A and B revealed the manifestation of all four clinical phases of gout. Interestingly, few birds in group D also showed signs of rare condition of acute articular gout. Microscopic examination of birds that manifested visceral gout revealed significant urate deposit, tubular necrosis and tophi formation in renal interstitium. We can conclude that Korean native broilers are more susceptible to gout than commercial broilers and laying pullets, as all different phases of gout were clearly observed in this animal model. Hence, Korean native broilers can serve as an ideal model for gout research.

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