

Summary of the DVM thesis No 14962, Faculty of Veterinary Medicine, Urmia University.

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Title of thesis: **Normal Radiographic Survey of the Skull and Vertebrae in sheep**

Summary:

Radiography is considered a useful diagnostic method in bone and joint diseases which cannot be diagnosed through clinical examination. Sheep is one of the ungulate ruminants and is bred for meat, wool and milk production. The normal radiological anatomy of dogs, cats and horses has been reviewed in the veterinary reference books. Normal radiological anatomy of sheep spine has not been studied in the veterinary reference books. In sheep with high economical value or those of pure breeds, the use of radiology to diagnose diseases related to the vertebral column can be useful in making treatment decisions. In recent years, sheep have been used as preclinical model to investigate vertebral implants. Nowadays, sheep and goats are used as orthopedic models due to their bone healing power, body weight, body size, and bone composition comparable to humans. Despite the fact that human and sheep vertebrae have differences, sheep vertebrae can be used as a model for experimental investigations in the field of human spine disease. In the present study, five adult sheep over one year of age were used to investigate the radiology of the head and spine. Clinical examination and blood test were used to confirm their health. Considering the length of the vertebral column in the neck, chest and back compared to the size of the radiology cassette and to prevent formation of the shadow effect of vertebrae, radiography has been performed in eight areas which consisted of the head, anterior cervical, posterior cervical, anterior thoracic, posterior thoracic, lumbar, sacral vertebrae and tail regions. Radiography in these areas was performed as standard view in ventral-dorsal and right lateral recumbency. Vertical beam was used in all these views. After preparing the radiographs, the images were compared with healthy bones and the anatomical features were named on the schematic designs from the radiographs. Natural radiographs, schematic designs and images of bones and skull were presented as standard radiology images of sheep's head and spine. The obtained natural images can be used by veterinary centers and researchers as a radiology atlas of sheep's head and spine.

Key words: radiograph, anatomy, sheep, radiology, head, spine