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Study on diagnostic imaging in whooper swans using a digital X-ray system

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Soft X-ray equipment has been used to image birds. The purpose of this study was to acquire and examine diagnostic images in the whooper swan. The head, thorax, and wings of five swans from the Iwate Prefectural Wildlife Protection Center were imaged using digital X-ray equipment (Aero DR system; Konica Minolta, Tokyo, Japan) and an X-ray generator (Mikasa, Tokyo, Japan). The conditions were 50-55 kV, 0.5-1.0 mA, and a film focus distance of 100 cm. The image data were analyzed with the software. The images revealed that the lateral thoracic tracheal cartilage spiraled around the chest cavity and was connected to the left and right air sacs. The syrinx seemed to spiral in some sections. The soft tissues of the heart and gizzard, the pelvic, hip, leg bones and the muscles were all clearly seen. The tail anteroposterior image revealed the intestine, the shafts of the tail feathers, the feather valves, and the wing roots. Sufficient contrast resulted in clear visualization of soft tissue. The skeleton, soft tissue and cartilage were revealed well by digital X-ray imaging, suggesting applications in diagnostic imaging.

Biography

Toshihiro Ichijo is currently working as a researcher in the Cooperative Department of Veterinary Medicine at Faculty of Agriculture, Iwate University, Japan.

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