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## SPINAL OSTEOARTHRITIS IN MALE LIONS (*Panthera leo*)

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### Abstract

Based on observations of clinical signs and necropsy lesions, the authors suspected an increased incidence of spinal osteoarthritis in captive, adult African lions (*Panthera leo*), compared to that seen in female lions and male tigers (*Panthera tigris*). A retrospective study of clinical observations and necropsy reports of all male and female lions, and a comparable number of male tigers fitting the inclusion criteria, was performed to investigate this observation. All animals were held in captivity,  $\geq 5$  yr old, and had full necropsies performed. Spinal osteoarthritis, if present, was confirmed by necropsy ( $n = 58$ ) or, in one case, by ante-mortem radiographs. Nine of 18 male lions and 3/17 female lions had spinal osteoarthritis. Four of 24 male tigers had spinal osteoarthritis. Difference in the prevalence of osteoarthritis was compared using Pearson's chi square and Fisher exact tests. Male lions had significantly more spinal osteoarthritis compared to male tigers ( $P = 0.041$ ), and male lions tended to have more spinal osteoarthritis than female lions ( $P = 0.075$ ). The mean age of male lions with spinal osteoarthritis was 12 yr, and affected male lions were significantly younger than male tigers (mean age = 17 yr;  $P = 0.03$ ) and female lions (mean age = 19.3 yr,  $P = 0.006$ ) with spinal osteoarthritis. Most of the osteoarthritis lesions in male lions included the cervical spine ( $n = 8$ ), while all of the affected female lions and male tigers had lesions in the lumbar spine ( $n = 3$  and  $n = 4$ , respectively). Cervical spine osteoarthritis should be strongly suspected in captive, middle-aged male lions showing signs such as paresis, recumbency, and ataxia.

**Key words:** Lion, osteoarthritis, *Panthera leo*, *Panthera tigris*, spine, tiger

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