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Abstract: Osteochondrosis dissecans is a disease which has been reported quite commonly in domestic dogs. David Blyde, Veterinarian at Western Plains Zoo, gives details of this condition which occurred in a litter of cheetah cubs and its subsequent treatment.

Osteochondrosis Dissecans in a litter of Cheetah cubs at Western Plains Zoo

Osteochondrosis dissecans is a disease which has been reported quite commonly in domestic dogs. David Blyde, Veterinarian at Western Plains Zoo, gives details of this condition which occurred in a litter of Cheetah cubs, and its subsequent treatment.



Photos by the Author.

Introduction

On November 20, 1988, a litter of four Cheetah cubs (*Acinonyx jubatus*) was born to "Marah", a ten year old female, originally acquired from Des Varaday's Cheetah Sanctuary in South Africa. The sire, "Claudius", was a seven year old male, on loan from Melbourne Zoo. He was originally wild caught as a cub and hand-raised after his dam was shot in South Africa.

The litter comprised three males ("Asante", "Kariba" and "Etosha") and one female ("Malindi"). Apart from routine vaccinations for feline enteritis, feline rhinotracheitis virus and feline calicivirus at six and 13 weeks of age, and a moderate infestation with roundworms (*Toxocaris leonina*) causing intermittent vomiting and diarrhoea, their medical histories were unremarkable.

Case report

At nine months of age (August, 1990), it was noticed that all four cubs had valgus deformities of both forelegs, i.e. their front paws were turning outwards. After immobilising all four cubs with Zoletil and radiographing the limbs, it was confirmed that they were suffering from retained cartilaginous cores in the distal ulna (a form of Osteochondrosis Dissecans) which was causing



One of the male Cheetah cubs, "Etosha", at nine months of age, showing valgus deformity of the left front leg.





Post surgical radiograph of distal ulna osteotomy in male Cheetah "Claudius", the sire of the cubs at Western Plains Zoo.
Radiograph courtesy of Melbourne Zoo.

the ulna to stop growing and thus the clinical signs of forward bowing of the foreleg and outward turning of the paws.

With the knowledge that oversupplementation with calcium in growing dogs can cause this disease (Hazewinkel et al., 1985, Hazewinkel, 1989) the calcium level in the diet was reduced. After approximately three weeks on this reduced calcium diet, it was noticeable that the female's legs had straightened up and that one foreleg on each of the males had also straightened.

Two weeks later (October, 1990) it was apparent that one leg on each male was getting progressively worse. It was decided at this time to perform an ulnar osteotomy on each of the affected legs. This involved resecting a piece of ulna approximately 5cm long and replacing it with a fat graft obtained from over the thigh. This stops the

radius from being inhibited in its growth by the abnormal distal end of the ulna.

By mid-November 1990, it was apparent that the operation had been successful on Kariba but Asante and Etosha still had one leg with a moderate valgus deviation of the paw.

After numerous immobilisations and radiographs, it seems that at the time of writing (February, 1991), both affected legs are straightening to some degree. At this time it is thought that these two Cheetah have very little growth left in their legs and if the legs do not straighten shortly, a wedge resection of bone from the radius and plating of the radius may have to be performed to correct the defects.

Discussion

Osteochondrosis Dissecans is seen frequently in growing dogs of large and giant breeds (Brown, 1975). It is very rarely seen in large felids and has not been reported in domestic cats to my knowledge.

The cause may be multifactorial but certainly could include overnutrition (Hedhammar et al., 1974), oversupplementation with calcium (Hazewinkel et al., 1985, Hazewinkel, 1989) and hereditary factors (Lau, 1977).

It is interesting to note that Claudius, the sire of this litter was similarly affected when he was nine months of age (Helen McCracken, pers. comm.). It is also worthy of note that calcium was being added to the diet of these cubs in excessive amounts. The reduction of supplementation with calcium coincided with the return to normality of five of the eight affected legs.

My opinion is that these cubs had a genetic predisposition to develop retained cartilaginous cores of the distal ulna and that the condition was brought about by oversupplementation with calcium in the diet of these growing cubs.

All institutions keeping Cheetah should be aware that this problem exists and should ensure that growing animals are not fed an excess of calcium in their diet.

The outcome of the two Cheetah still affected will be relayed to members of the ASZK through further publications in this journal.



Product mentioned

Zoletil (Virbac) - Tiletamine hydrochloride and Zolazepan hydrochloride as a powder to be reconstituted.

References

Brown, S.G. (1975) Joint diseases: Osteochondritis Dissecans. In Textbook of Veterinary Internal Medicine. Stephen J. Ettinger, Chapter 16 pp. 1763-1764.

Hazewinkel, H.A.W., Goedagebuurs, S.A., Poulos, P.W. and Wolvekamp, W.T.C. (1985) Influences of chronic calcium excesses on the skeletal development of growing Great Danes. JAVMA Vol. 21 May/June pp. 377-391.

Hazewinkel, H.A.W. (1989) Nutrition in relation to skeletal growth deformities. Journal of Small Animal Practice 30, pp. 625-630.

Hedhammar, A., Wu, F., Krook, L., Schryver, H.F. de Lahunta, A., Whalen, J.P., Kallfelz, F.A., Nunez, E.A., Hintz, H.F., Sheffy, B.E. and Ryan, G.D. (1974) Overnutrition and skeletal disease: An experimental study in growing Great Dane dogs. Cornell. Vet. vol. 64, suppl 5.

Lau, R.E. (1977) Inherited premature closure of the distal ulnar physis. JAAHA Vol. 13 Sept./Oct. pp. 609-612.



Fostering Tuans

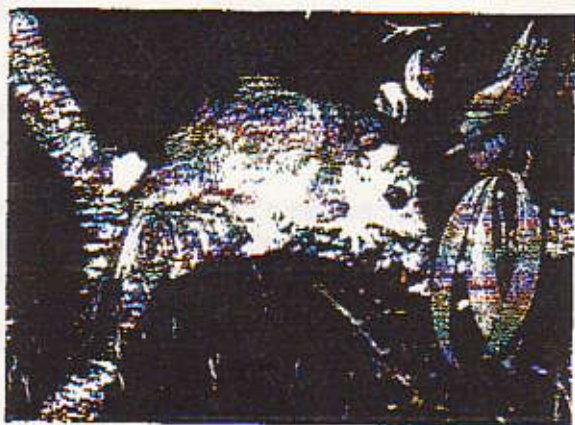
On September 24, 1990, seven young Tuans (*Phascogale tapoatafa*) were brought to the Healesville Sanctuary after being found on their dead mother the night before in Chiltern State Forest. The litter comprised four males and three females.

They were approximately nine weeks of age and were given to our Animal Care Department for handraising. Their age was established by using data collected from a research project on growth development of pouch young Tuans we are conducting here at Healesville.

As they would normally be attached to the teat for most of the time, it was decided to try to foster one male onto one of our breeding females housed in the Small Mammal Breeding Pens. This female had a litter of her own, aged approximately 12 weeks and would still be lactating.

Her three young were removed from the nest and were rubbed over the new animal to try to put some familiar scent onto it. It was then placed into the nest. When it was checked later that day and was found to be suckling, a further male and female were added.

The next day we decided to foster the remaining three to another female who had four young, also approximately 12 weeks



old. Again we removed the female's young and rubbed them over the new animals, and placed the new young into the nest.

They were checked daily for five days and any unattached from the teat were weighed and put back. Their weight on arrival was about 12g and after five weeks the juveniles weighed between 50-60g.

The seven original young spent a few weeks being handraised by the Animal Care Department and were then weaned. They are now back in the Small Mammal Breeding Pens.

Research of literature has shown that this is the first time fostering has been accomplished with Tuans.

Simon Hunter
Healesville Sanctuary.

