BRIEF NOTE

Cystic Calculosis Repeating in a Beagle Dog

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Urinary calculi have been found in about 1% of dogs, and most of them have been described as cystic calculosis [2]. It has been reported that no evidence of bladder stones was found in 2 life-span colonies of about 1000 animals regarding beagle dogs [1].

A specific case of cystic calculosis was noticed in a female dog of about 3.5 years old in the beagle colony of 120 animals, bred in National Institute of Radiological Sciences. The disease occurred to the dog repeatedly three times. Breeding condition was conventional. They were fed on commercial food (Clea Japan, Inc., CD-5 for dog food). This disease has not been observed in other dogs of the same litter. Urine analysis of the dog resulted in alkalinuria (pH 8.0), hematuria, protein 30–100 mg/dl and increase of crystal of ammonium magnesium phosphate. Alkali-

nuria has been continuously observed in the dog. Three times of operations were carried out to remove the bladder stones. The appearance, weight and scale of the stone thus taken out are shown in Fig. 1 and Table 1.

The primary stone (19.0 g) was taken out from the ventral site of the bladder at 527 days after birth (Fig. 1, No. 1). The disease was discovered when the mating was attempted. For bleeding on the penis by visible wound was found in the male dog, the mating was discontinued. At about 100 days after the first surgical operation, mating and delivery was successful. The litter size was 3 (1 male, 2 female). This litter size was much smaller than the mean size (7.3) of this colony.

The secondary occurrence was observed at 213 days after the primary operation. The stone (25.9 g) was taken out from the dorsal

Table 1. Appearance, weight and scale of bladder stones

	1st	2nd	3rd
Surface appearance	Rough	Rough	Smooth
Weight (g)	19.0	25.9	16.75 10.95 4.5
Scale* (mm)	34.5×31.3×27.2	40.6×33.2×25.5	29.8×24.6×26.8 23.3×23.6×22.9 20.2×18.7×19.8

Remarks.

* Measured in maximum length.

site of the bladder (Fig. 1, No. 2).

At about 4 months after the second surgical operation, dysturia and hematuria were observed. The size of the stone was estimated to be of the ball appearance, 2 or 3 cm in diameter by touch. The third operation was carried out at 181 days after the second operation. Three pieces of stones (16.75, 10.95, 4.5 g) were taken out from the ventral site of the bladder again (Fig. 1, No. 3).

These stones taken out in each operation were shown analytically to be the struvit

calculi which were composed of ammonium magnesium phosphate.

Although there remains a possibility of recurrence of cystic calculosis in this beagle dog, breeding may be possible by taking out the bladder stones by surgical operation.

References

- [1] Andersen, A. C. (1970). *In The Beagle as an Experimental Dog*, The Iowa State Univ. Press, Ames, 557.
- [2] Catcott, E. J. (1968). *In Canine Medicine*, American Veterinary Publications, Inc., 396-398.

要 約

ビーグル犬にくり返しみられた膀胱結石症 (短報): 福田 俊・松岡 理 (放射線医学総合研究所障害基礎研究部)——犬の尿結石症は約 1% にみられ, このうち膀胱結石症が最も多いといわれる. しかし一般に実験用ビーグルの膀胱結石症は極めて少ない. 本論文は同一飼育環境下のビーグルの成犬 120 頭中 3.5 才になる雌 1 頭が膀胱結石症を 3 回くり返した例についての報告である. 尿検査の結果, アルカリ尿 (pH 8) で, 結石の主成分はリン酸アンモニウム・マグネシウムであった. 手術により結石を摘出し, 繁殖生産における障害を除いている.

Explanation of Figure

Fig. 1. Bladder stones (struvit calculi) taken out surgically.

1: 1st operation on 527 days after birth.

2: 2nd operation on 213 days after the 1st.

3: 3rd operation on 181 days after the 2nd.