

DOES BOVINE CONGENITAL PORPHYRINURIA (PINK TOOTH) PRODUCE
CLINICAL DISTURBANCES IN AN ANIMAL WHICH
IS PROTECTED AGAINST THE SUN?

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The first clinical cases of bovine congenital porphyrinuria were reported by Fourie (1936). The symptoms described by him are: (1) unthriftiness; (2) lesions of the skin due to photosensitization; (3) brownish discoloration of the teeth, hence the name pink tooth; (4) brownish discoloration of the urine; (5) red counts which are slightly on the low side (3-5 millions) compared to the normal (5-7 millions).



FIG. 1.—Bovine 7017, aged about 18 years. Bovine Congenital porphyrinuria (pink tooth).

Morphologically he also described occasional normoblasts and occasional punctate basophiles, but these cells were so few in number, that he did not consider them as sufficient evidence of a significant disturbance of the blood picture.

The subject of this short paper is animal No. 7017 (Fig. 1).

This animal is the last remaining animal of the 10 animals Fourie brought to Onderstepoort from Swaziland in 1935. At the time this animal was destroyed (1951) it was about 18 years old and during the last 10 years of its life, it was kept in the stable during the day time, but allowed out into a small paddock for exercise at night. Further details of this animal will be found in the papers of Fourie (1936) and Rimington, Roets and Fourie (1939). The animal shown in figure No. 9 has been wrongly designated by Fourie (1936) as 7017. It should be 7018. One can even see from the brand in figure 9 of that paper that the number is not 7017.

During the 15 years the animal was maintained at Onderstepoort, it was for a time kept day and night in an open camp and later it was turned out to graze on our adjoining farm, on which heartwater infected ticks were present. During this time it was regularly dipped with the other animals.

It always remained in reasonably good health and since it survived heartwater infected veld, it must have become naturally immunized in Swaziland whilst still very young. During the time it was exposed to the sun during the day, its condition was very poor. It was then decided to house the animal day and night, but it developed rheumatism. The animal was consequently housed only during the day and allowed to run in a small camp at night for exercise. It immediately improved in condition and the only attention that was from time to time necessary, was to cut down the hoofs, which tended to grow out on account of the lack of exercise.

Fourie (1936) recorded red counts of the animal when it was about 4 years old. These varied from 2.6 to 4.0 million per c.c. Red counts were also made from time to time since 1936. They varied from 2.6 to 4.9 millions per c.c. and just before the animal was destroyed they were 3.3 millions per c.c.

The reason why the animal was destroyed was because its teeth were beginning to give in and it could no longer masticate properly.

On post mortem examination no lesions were found to be present, but there was well-marked brownish pigmentation of the teeth that were present, and of the bones as well as brownish discoloration of the urine. There was also macroscopic pigmentation of various organs, such as the lymphatic glands, liver, kidneys, lungs and what appeared to be atrophy of the spleen.

At the time the animal was destroyed its condition was poor, this was ascribed to be due to his teeth giving in as a result of old age, but when the animal was some years younger it was in very good condition showing no ill effects whatsoever, as a result of the congenital porphyrinuria, whilst it was protected against the sun, by stabling during the day.

Besides brownish discoloration of the teeth and the bones throughout, there were no well-marked anatomical pathological changes macroscopically. The spleen, however, seemed to be in a state of atrophy.

The total porphyrin excretion in this animal (1.6 gm. per day) was very much greater than was the case with the other porphyrin animals dealt with at Onderstepoort. In spite of this, it achieved the ripe old age of 18 years. The other animals would undoubtedly also have become very much older if they had not died from Traumatic Pericarditis or some other infection.

Histologically there was well-marked pigmentation of the lymphatic glands, the liver, spleen and the kidneys, which in addition also showed a certain amount of induration.

SUMMARY.

An ox, No. 7017, suffering from bovine congenital porphyrinuria (pink tooth) and excreting as much as 1.6 gm. of total porphyrins in faeces and urine per day, was still in reasonably good health at the age of 18 years. There was a slight anaemia, marked macroscopic pigmentation of the teeth and the bones, marked microscopic pigmentation of the organs, but no ill effects as a result of the porphyrinuria were shown whilst the animal was stabled during the day.

LITERATURE.

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