CANINE HYDRONEPHROSIS; ASSOCIATED WITH CON- GENITAL ABSENCE OF THE OTHER KIDNEY.

By GERALD LEIGHTON, M.D., F.R.S.E. [Interim Professor of Pathology, Royal (Dick) Veterinary College.]

THE following interesting, and in some respects anomalous case occurred in the Royal (Dick) Veterinary College during last winter session; and, as the association of conditions which were revealed on the organs coming into my hands for *post-mortem* examination is very unusual, I have thought it desirable to place the case on record.

The clinical history of the case, I have compiled from the notes of the case taken by the late Mr Joseph Warick, M.R.C.V.S., who was then Hospital Surgeon at the College, and whose untimely death towards the close of the session deprived the veterinary profession of what promised to be a most valuable career. Mr Warick handed me the notes of the case after he had been taken ill, and I reproduce them practically in his own words.

Clinical History.—"On 14th November 1902, a sable-coloured collie dog was brought into the hospital, suffering from an attack of intense diarrhoea. The history given by the owner was that this diarrhoea had been continuously present for the three weeks preceding the date mentioned, up to which time the animal had been in perfectly good health.

"On examination it was found that the dog was in a weak anæmic condition, with a ragged coat, and presenting in general a delicate appearance, although quite lively. The pulse and temperature were normal. The conjunctival membrane was of a pale yellow colour. The abdomen was tucked up, and on manipulation no sign of pain was evinced. The diarrhoeic matter voided was thin, watery, and yellowish, having the consistence of gruel.

"The treatment consisted in the administration of an oleaginous purge to remove any fermenting food that might be in the alimentary tract; followed by tonics and astringents, which seemed to have but little effect in allaying the profuse diarrhoea.

"The same result attended the administration of stronger remedial agents. A second examination was made to reveal, if possible, the cause of the diarrhoea, but nothing was found beyond the symptoms at first noticed. It was thought possible that the dog might be suffering from *tabes mesenterica*. Some large doses of opium were given in order that some mucus might be obtained for microscopical examination. This examination failed to reveal the presence of the tubercle bacillus. Perseverance in the tonics and astringents had at last the desired effect, and on 11th December 1902 he was discharged from the hospital, apparently quite well and healthy.

"The dog remained well until 20th February 1903, rather more than two months later, when he was again admitted, presenting the same symptoms as before, except that the back was slightly arched, and the movement of walking seemed to be attended with pain. As the animal did not improve under further treatment, it was decided after consultation with the owner, to have it destroyed, and accordingly this was done on 2nd. March 1903."

The above are the notes as given to me, and it will be noted that it

was never possible during life to ascertain the cause of the persistent diarrhoea, nor could any definite diagnosis be made. The *post-mortem*, however, revealed an interesting pathological condition, even if it hardly explained the symptoms which had been present.

Post-mortem.—As was inevitable after such long-standing and persistent diarrhoea, the body was emaciated, but, apart from this general emaciation, absolutely nothing abnormal could be detected until the urino-genital system was examined. The left kidney was entirely absent, and as is usual in these cases of congenital absence of one kidney, the other one, the right in this case, was considerably enlarged. The naked eye appearance, both external and on section, of

FIG. 1. External surface of right kidney.

FIG. 2. Section of right kidney.

the right kidney is so well depicted in the illustrations appended, that a detailed description is unnecessary. The one ureter was of great size, readily admitting the middle finger into its lumen, and it opened into the dilatation in the kidney, which was full of fluid. It was, in fact, a typical hydronephrotic kidney. The papillæ were flattened almost beyond recognition, and, as the result of the progressive destruction of the tissue of the pelvis, a large fibrous sac remained continuous with the lumen of the ureter. At one spot, clearly seen in Fig. 2, on the fibrous wall of the commencement of the dilated ureter there was a disseminated gritty deposit extending over an area of half an inch

square. The single ureter was greatly enlarged throughout its whole length, and the opening into the bladder was of corresponding size. The bladder itself exhibited but little change from the normal, being but slightly distended, the coats neither hypertrophied nor atrophied.

The next step was to endeavour to find the cause of the hydronephrosis. As only one kidney was present, it was not possible to say whether the cause was one which was producing an *unilateral* hydronephrosis, or whether it would have had a similar effect on the other kidney had that organ been present. Proceeding, therefore, by a process of exclusion, nothing was found in connection with the ureter to account for the condition. There was no sign of calculus, contraction after an injury, stricture of any kind, or pressure of any growth upon the ureter. There was no twisting. It was therefore obvious that whatever was causing the backward pressure of the urine and obstructing its out-flow must be either in connection with the bladder or the urethra. No obstruction of any kind was found in the bladder. The urethra only remained. This in itself was normal, but it was found that the prostrate was considerably enlarged. Nothing more was found to account in any way for the condition, which must therefore be ascribed to the prostatic enlargement pressing upon the urethra.

Remarks.—The case was obviously one of *acquired* hydronephrosis, the dog being, I was informed, eight years old. The single right kidney had apparently performed the function of both without any obvious difficulty for a long time. The prostatic enlargement was probably of recent development, indeed must have been so. The congenital absence of the left kidney reminds one that in a considerable proportion of all cases of hydronephrosis there is some associated congenital deformity, either in the kidney or elsewhere in the body. The difficulty of diagnosis is great unless the kidney forms a palpable tumour, and, as a rule, pain is not conspicuous except in very acute cases. Moreover, hæmaturia is by no means common, the urine more frequently being normal in amount and constituents. In this particular case one cannot easily see that the *post-mortem* threw much light on the clinical history of the dog, and one is rather driven to conclude that the actual cause of the diarrhoea escaped observation. I had the kidney photographed as soon as possible by Mr Swan Watson, of Edinburgh.

AN ACUTE CASE OF ROARING.

By WILLIAM ASCOTT, M.R.C.V.S., Bideford.

THE following is an account of an acute case of roaring which occurred in a half-bred mare, seven years old. The animal was purchased in June 1902, after I had examined her for soundness, by a client (whom I will call client No. 1) for coaching and general harness work. She did her work very well indeed, and was never sick nor sorry during the five months she was owned by client No. 1. She was shown in harness at our local horse show on August Bank holiday, when the going was very heavy, owing to the previous heavy rains on a newly-made ground; and she won first prize in a class of twelve competitors. She was such an exceedingly nice mare that at the end of the coaching season both client No. 1 and myself