

Anatomical Studies, No. 47: Pervious Urachus in a Bull Calf.

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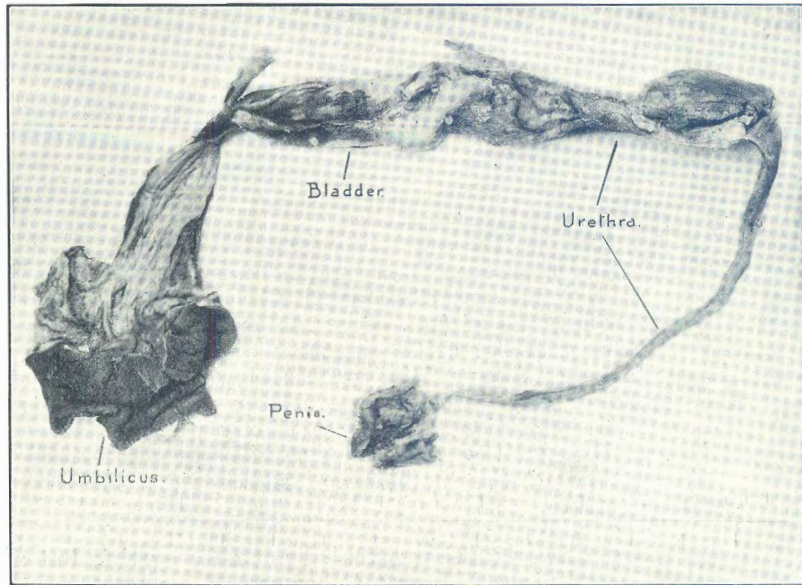
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THE above condition, occurring in a Sussex bull calf D.O.B. 5434, was observed only a few days before death (31st August, 1933), the animal then being 5 weeks of age. The reason for this presumably is that the external urethral orifice in the male is adjacent to the umbilicus and more than a superficial examination would be necessary to diagnose the condition. When, however, the calf showed loss of condition a careful inspection revealed not only an abscess in the umbilical region, but also that a catheter would pass *per umbilicum* into the anterior end of the bladder and so release a quantity of pus-contaminated urine.

The *post-mortem* examination revealed not only cystitis but also pyelo-nephritis of the right kidney. Other secondary lesions (P.M. No. 12412) were catarrhal pneumonia of the right lung, purulent foci in the liver, and fatty degeneration of the myocardium.

Now at birth, as a result of the rupture of the umbilical cord, blood no longer flows through the umbilical vessels and the two arteries become the round ligaments of the bladder. Instead of the tube-like urachus (allantoic duct between bladder and umbilicus) becoming atrophied and being represented at the cranial end of the bladder as the middle ligament (*centrum verticis*), in the above case, the urachus remained patent and urine was therefore excreted not only by way of the urethra but also *via* the urachus. In the *post-mortem* report the fact that the bladder was described as tubular and extending forward to the umbilicus can therefore be understood. Incidentally the contents were dirty grey and floccular due to the pus. Owing to the pus infection at the umbilical orifice the tissues in this region were thickened. It is significant that the left round "ligament" was large and possessed a lumen of 0.5 cm. which, however, became obliterated as the vessel approached the cranial end of the bladder. The thickness of the wall was not constant, but thicker dorsally. The right round "ligament" was small and had no lumen, its diameter being 0.1 cm. The left ureter, too, was much larger than the right and had a lumen of 0.2 cm., whereas the lumen of the right ureter could only be determined with the finest probe. This is significant when the fact that the right kidney

contained pus is appreciated. A possible explanation is that after infection had extended to the right kidney *via* the right ureter, it ceased functioning and the right ureter accordingly atrophied. The left ureter now called upon to perform additional work became dilated. (See Figure.) It may be added that the urachus was ligatured two days before death.



REFERENCES.

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