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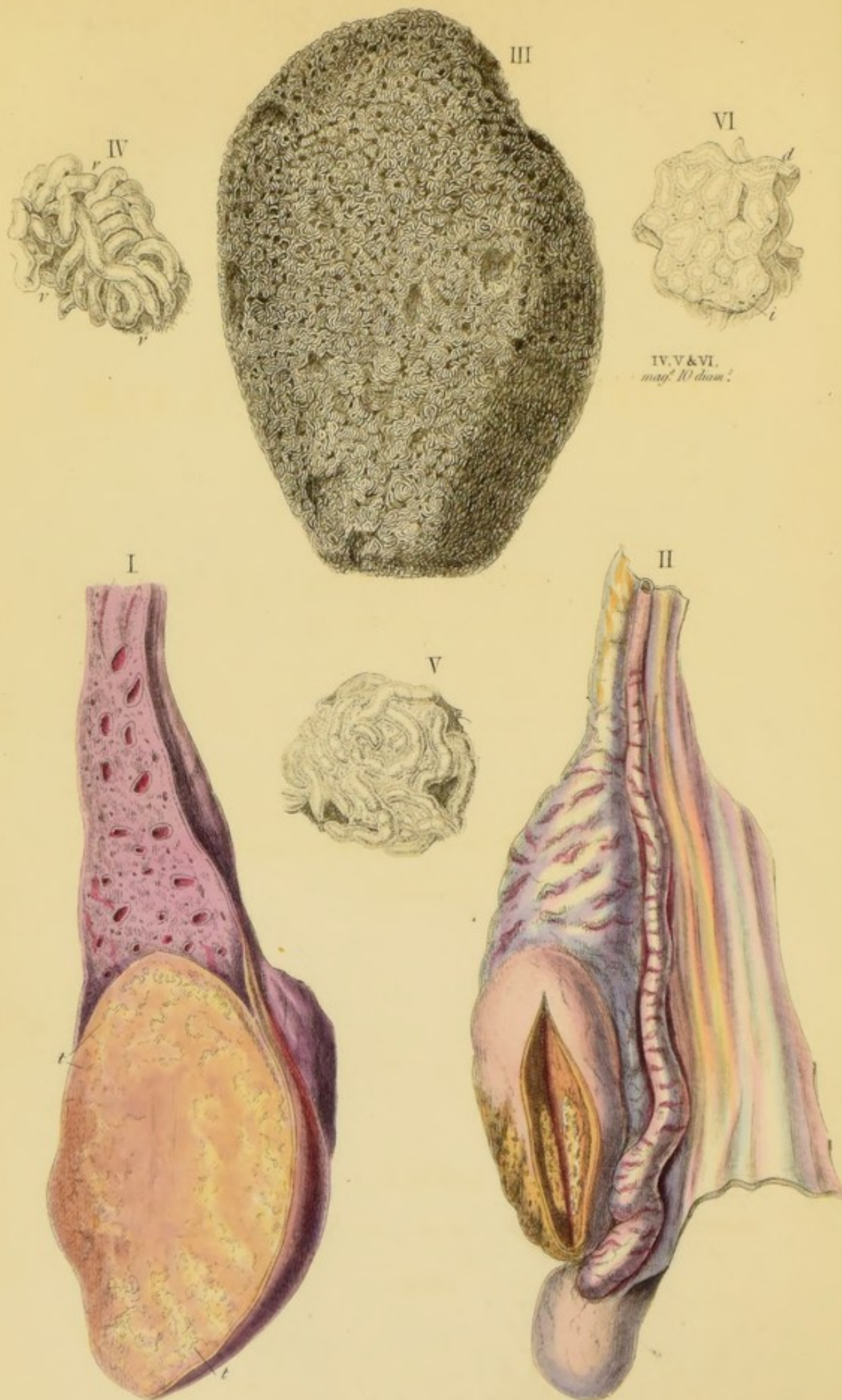
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ACCOUNT
OF A
CALCIFIED TESTICLE OF A RAM.

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ILLUSTRATED WITH A COLOURED ENGRAVING.

LONDON:
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1850.



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ACCOUNT
OF A
CALCIFIED TESTICLE OF A RAM.

THIS morbid production was laid before the members of the Veterinary Medical Association during the past session. It was obtained about the year 1843, from an aged ram, the property of Mr. Folliott, farmer, of Tilsted, Wiltshire. During life the animal served in the flock with other rams, and had never been recognized as a bad stock-getter. Hydrothorax was the cause of death, after which the testicles were thrown as food to a fox kept in Mr. Folliott's yard. The one testicle was eaten; but a considerable mass being left, it was picked up, and found to be the hard, heavy, stone-like substance before us. It is said to have been covered by membranes. In this condition it was seen by Mr. Hussey, who, being an eye-witness to the fact, kindly communicated to me the preceding history while a student at the Royal Veterinary College. None of Mr. Folliott's rams ever furnished a similar morbid specimen, nor had they been subject to any peculiar disease of the osseous system.

The outline of the testicle is irregularly oval. [see *Plate, Fig. 3*]. It is flattened on its two surfaces; conical and pointed at one extremity, quadrilateral and truncated at the other. Its maximum measurements are, four inches and a-half in the longitudinal direction, three inches from side to side, two inches and three-eighths thick, and nine inches in circumference; weight, fourteen ounces and a-half avoirdupois.

Mr. Tufnell, of the Birkbeck Laboratory, subjected a portion of the earthy substance to qualitative analysis, and he has kindly favoured me with the following result:—"The principal constituents are, phosphate of lime combined with a small quantity of phosphate of magnesia; a little sulphate, and probably carbonate, of lime; also some nitrogenized organic matter."

The surface of the testicle is of a dirty white colour, and imparts a slight sensation of roughness to the hand when passed over it. It is marked by several shallow and indistinct grooves; one, in particular, deeper than the others, and all taking a longitudinal course. It is likewise studded with numerous shallow foramina, some of which are so small as only to admit the point of a pin, while others are an eighth of an inch across: between these two extremes all gradations of size are met with. Moreover, upon careful examination, the surface presents to the naked eye a multitude of small, yellowish white, crescent-shaped objects, closely packed, and more distinctly visible in some parts than others [see *Plate, Fig. 3*]. When examined with an inch lens, these shining crescent-shaped objects appear to be the bendings of little hard cylindrical rods, emerging from the interior of the mass, and there returning [see *Fig. 4*]. At several points they appear agglutinated together by a calcareous amorphous deposit, and this is especially the case at the broad and blunt end of the testicle. [see *Fig. 6*]. The supposition that the little rods are the calcified tubes of the testicle is confirmed by examination of a portion of the surface, where pieces have been at various times accidentally broken off: here the little rods are seen to be very much twisted; many of them are broken across, while the bendings of others remain perfect; and so closely does the appearance resemble the characteristic structure of the testicle, that, when the specimen was shewn to a distinguished anatomist (without any intimation as to its history), he at once suspected its true nature.

Both in a transverse and longitudinal fracture the interior of the calcified tubes is found filled with a hard material, of a whiter colour and less shining than the outer surface. The fragility of the substance having prevented the preparation of a section sufficiently thin to be seen by transmitted light, we have examined under the microscope, with reflected light and an inch power, magnifying 100 diameters, the surface of a small piece sawn off from the testicle in a transverse direction. The tubules [see *t, Fig. 5*] are seen to be completely filled by uniform earthy deposit of a dead white colour; many of them are studded with a few small holes. The circumferential border of the tubes is darker than their interior. Their shape varies; some of them are perfectly circular, others oval or elliptical, and others are much

elongated, and bent in the form of a crescent. This difference in shape, doubtless, depends upon the relative direction in which the tubes were divided; some being sawn directly across, others more obliquely, and a few lengthways, i. e., along their long axis. The diameter of the spherical tubes averages from $\frac{1}{80}$ to $\frac{1}{33}$ of an inch; a few, however, only measure $\frac{1}{100}$ of an inch across. Many of the tubes are in close apposition, while others are separated by a considerable quantity of intermediate substance, of a yellowish colour, and apparently granular texture, interspersed with numerous small holes. In some parts this material is wanting, and the tubes are separated by irregular chinks.

In systematic works on pathological anatomy, I find no mention made of diseases affecting the testicle similar to this now recorded; but it is with pleasure that I acknowledge my gratitude to Dr. Sharpey for having called my attention to, and allowed me to have a copy taken of, a drawing in Dr. Carswell's extensive and valuable collection, now in University College. The figures represent the process of calcification in the testicle of a goat, at a much earlier stage than the case just recorded: and although that eminent pathological anatomist has not described the *hard wiry* vessels as the tubes of the testicle calcified, yet connecting his case with our's, we hesitate not to regard them as specimens of the same disease in different stages. The following is the description appended to Dr. Carswell's figures [see *Plate*]:—

“*Fig. 1* represents the right testicle laid open longitudinally. The bulk of the testicle appeared to be natural, as well as its colour and consistence. Scattered through it, however, were seen a great number of vessels of considerable size, filled with a straw-coloured substance, which made them so hard and stiff, that, when the finger was passed over them, they felt like wires. They were most numerous at the inferior part of the organ, where they were coiled up into branches, resembling the spermatie organs of the worm. There was also a considerable number at the top of the testicle, and several could be seen scattered here and there in its body.

“*Fig. 2*.—The left testicle was greatly wasted; it was not more than the fourth of the bulk of the right, while the *vas deferens* and its branches appeared to have preserved their original size. The inferior half of the testicle was wrinkled, and felt hard, and when

cut was found to be converted into a hard earthy substance, of a straw colour and granular structure. It adhered firmly to the substance of the testicle, which was firm and somewhat dry, and did not contain any of the vessels found in the other.

"The poor animal in whom this diseased state of the testicle was found was confined, in a state of solitude, in sight of his former female associates, with whom he had formerly been actively engaged in propagating his species."

Since the preceding pages have been in the printer's hands, my attention has been directed to the following notice, in the Report of the Pathological Society of London, vol. i, page 346:—"The Testicle of a Ram converted into calcareous Matter. Weight ten ounces and a half; length five inches; circumference eight and a half inches. The epididymis and spermatic cord were healthy." Exhibited by Mr. Crisp, 15th May, 1848.

(I have called on Dr. Crisp, who has kindly shewn me the testicle, and offered me every opportunity of examining it, with permission of making my observations public. It is still invested by the dry and adherent visceral portion of the tunica vaginalis, which is semi-transparent (a condition favoured by its having been covered with varnish): apparently it is of normal thickness. A small portion of the calcified surface left uncovered, is more nodulated than that of the specimen we have recorded, and the convolutions of the tubes are less distinct. The object being divided lengthways, is seen to be solid throughout, except in the centre, which is marked by a groove in form resembling the letter J, measuring in length about $1\frac{1}{4}$ inch, and $\frac{1}{6}$ th of an inch in breadth. The boundaries of this groove are compact, smooth, and glistening; it does not reach either extremity of the testicle. On the whole, the calcified material is less compact, and the specific gravity lighter (in accordance with the fact that the bulk is greater and absolute weight less) than in the testicle described by us. In the interior of Dr. Crisp's specimen many of the hard and solid tubes are seen cut across, while the bendings of others remain perfect: the interior of the calcified tubes is whiter than the circumference, which, however, is not so dark and glistening as in the tubes we have described. A considerable amount of granular calcified material appears interspersed among the tubes,

which, when examined with an inch pocket-glass, seem smaller than those of Mr. Folliott's specimen. In conclusion of this description, it may be advisable to mention, that the appearance of Mr. Crisp's diseased production is not so much that of *bonâ fide* calcified testicle as is that of Mr. Folliott's; in fact, the latter may be regarded as an explanatory key to the former. »

The existence of two specimens of calcified ram's testicle, and of drawings representing the incipient degeneration in both testicles of a goat, renders it not improbable that the disease is of more frequent occurrence in those animals than has hitherto been suspected. The characteristic feature of these morbid productions is, that the healthy tissue of the organs appears to have become impregnated with saline matters; for, while calcification of morbid deposits is not unfrequent, such degeneration of healthy tissues is comparatively rare. Collating Dr. Carswell's statement, that in the testicle which he figured, and in which the process of calcification was most advanced, "the vas deferens and its branches appeared to have preserved their original size;" and Dr. Crisp's statement, that, in the specimen in his possession, "the epididymis and spermatic cord were healthy," we infer, that the calcific degeneration commenced in the testicles independently of any change in their afferent or efferent vessels. And again, comparing Dr. Carswell's first figure with the second, and this with the specimens in the possession of Mr. Folliott and Dr. Crisp, it seems warrantable to conclude that, in the testicle, the tubes were the first to become impregnated with saline matters.

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Explanation of the Plate.

Fig. I and II represent the process of calcification, in an early stage, in the testicle of a goat, after Dr. Carswell. At fig. I, *t*, the tubes are converted into hard wiry vessels. The testicle, represented at Fig. II, is greatly wasted. At its inferior half is a hard earthy substance, of a straw colour, and granular structure.

Fig. III. The calcified testicle of a ram.

Fig. IV. A small portion of the surface of the testicle viewed with an inch lens; at *v*, are seen the bendings of the calcified tubes.

Fig. V. Another portion of the surface, examined with the same glass as the above; the tubes are rendered indistinct by an intermediate calcareous deposit.

Fig. VI. A transverse section of the testicle examined with the microscope by reflected light. The cut tubes *d*, magnified 100 diameters, are seen filled with a white calcareous deposit. They are of various shape, and their boundaries are darker in colour than the interior. At *i* is the intermediate substance, of a dirty yellow colour, studded with small holes.



