CHRONIC DISEASE OF THE COLLICULUS SEMINALIS.

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AFFECTIONS of this the most important area of the posterior urethra are frequently the origin of profound genito-urinary neuroses. That such disease should give rise to hysterical and neurotic manifestations and disturbances of the urinary and sexual functions is not to be wondered at when one considers the relationship of the colliculus seminalis—otherwise known as the veru montanum, the caput gallinaginis, and the crista urethrae—to the ejaculatory ducts, the prostatic openings, and especially to the utriculus masculinus, which is the analogue of the female uterus. The colliculus seminalis, moreover, plays an important part in the mechanism of ejaculation. With erection of the corpora cavernosa the caput gallinaginis swells also; the mouths of the ejaculatory ducts are thereby directed forwards towards the membranous portion, and at the same time the bladder is closed behind. By this process the urethra, which ordinarily serves as a canal for the discharge of urine, is devoted to the use of the sexual system. That the bladder is shut off by the swollen veru montanum appears clear from the fact that it is difficult to void urine when the penis is fully erect, attempts at micturition causing a partial subsidence of the erection; again, urination cannot immediately succeed ejaculation. Also the pain felt in the perineum during ejaculation in cases of tight stricture shows that the passage backwards towards the bladder is closed to the semen. Another point in connexion with the neuroses of the veru montanum which to my mind is also of importance is the knowledge that the nerve supply of this part is in health greater than that of the rest of the urethra. This is proved clinically by the fact that the veru montanum is normally the most sensitive spot recognized by the patient during the passage of an acorn headed bougie down the canal.

A lesion of the colliculus seminalis may persist as the sole sequel of a gonorrhoea, but may also be brought about by sexual excess, frequent masturbation, and particularly by artifices to prolong the sexual act or to prevent pregnancy, such as digital compression of the urethra, constriction at the peno-scrotal juncture by a rubber band, or a species of mental coercion by means of which the orgasm is arrested just before ejaculation. Much more frequently, however, one finds abnormalities of the veru montanum associated with gonorrhoeal inflammation of other parts of the posterior urethra, or of the prostate and its ducts, or the vesiculae seminales and the ejaculatory ducts, or of the epididymes. Yet, in cases where one or more of these were involved, I have sometimes observed that after all prostatitis, vesiculitis, or epididymitis had yielded to treatment, the caput gallinaginis still presented an abnormal appearance, such as a soft infiltration, and gave rise to symptoms. Even when there is a co-existing inflammation of that acknowledged sensitive and nervous organ the prostate, I nevertheless think that the veru montanum is responsible for the greater part of the neuroses produced by the two combined lesions.

The features of a diseased colliculus seminalis can be readily investigated with the aid of various endoscopes. My usual instrument consists of an appropriately curved urethrosopic tube of the size of No. 25 French, with a capacious window on the under aspect of the curve which, when the obturator is removed, allows even an enlarged colliculus to completely enter the fenestrum without dragging on the sides of the delicate structure. With the passage of the ordinary straight urethrosopic tube, bleeding, slight as a rule, but occasionally severe, invariably results and requires persistent and careful swabbing away in order that the view be unobscured. Further, with the straight tube, instead of the complete veru montanum being exposed, only a portion of it is seen, huddled up as it were, at the extremity of the tube. The previously mentioned curved tube, made for me some years ago by M. Gentile, of Paris, and arranged to work with the Valentine lamp, answers very well for preliminary examination and appreciation of the coloration of the part, and, moreover, it is excellent for purposes of treat-

ment. For the study, however, of the more minute details, I find Goldschmidt's irrigation urethroscope invaluable. Just as in the anterior urethra the inflation of the canal with air by stretching the lax and folded mucosa allows much finer investigations than the ordinary Valentine instrument can afford, so in the posterior urethra, where, of course, the aid of air is practically impossible, Goldschmidt in his apparatus—which is really a urethroscope on the principle of the cystoscope—has recourse to a flowing stream of water to open out and distend that part of the canal. The stream of water at the same time serves to wash away any bleeding and keep the lamp cool. Until the water is turned on and allowed to flow by gentle hydrostatic pressure, the picture presented is altogether indistinct, but as the fluid enters the most minute points are beautifully displayed. The marked anaemia of the parts produced by the water pressure and the fact that the appliance is only of diagnostic value are the disadvantages of Goldschmidt's urethroscope, but the alternate use of the two instruments. I have described affords every scope for full investigation and treatment of the colliculus seminalis.

Viewed urethroscopically, the dimensions, aspect, and even the situation of the normal caput gallinaginis are far from constant, and considerable experience is required in deciding between the healthy and diseased appearances. The part is, on an average, about the size of a split pea, but its dimensions are generally in proportion to the size of the urethra and the development of the penis. In shape it usually takes the form of a semiglobular protuberance, and has a yellowish-rose colour. Using Goldschmidt's instrument, one can clearly see towards the anterior extremity and on the sides of the veru montanum the orifices of the prostatic ducts. These are small punctiform depressions, often smaller than the lacunae of Morgagni, and are easily overlooked with the other urethroscopes. The openings of the ejaculatory ducts are much larger, but even these I find difficult to make out with my curved tube and the Valentine source of light. The aperture leading into the utriculus masculinus, however, can be seen as a fine slit on the anterior declivity of the veru montanum when the part is examined with either instrument.

Pathologically, one finds that chronic disease of the colliculus seminalis is, like chronic urethritis generally, characterized by the formation and evolution of a small-celled infiltration which tends to become transformed into fibrous tissue. According to their stage, these infiltrations are classified into soft and hard varieties. When the veru montanum is the seat of soft infiltration, it swells, becomes dull red and cyanotic; its surface loses its smooth aspect, being, as it were, wrinkled by the formation of folds. Often it has a vivid red and pitted appearance, and resembles somewhat an over-ripe raspberry. Sometimes with Goldschmidt's instrument attenuated polypoid excrescences can be seen springing from the veru montanum and waving about in the stream of water. The orifice of the utriculus is gaping and inflamed, and the openings of the prostatic and ejaculatory ducts appear red, swollen, and surrounded by a prominent border and occasionally muco-pus can be seen to exude from these openings. When the small-celled infiltration of the colliculus has undergone a fibrous transformation its mucous surface seems "dried out," as if it had lost its polish and brilliancy, and has a greyish-rose or greyish-yellow colour. Viewed with Goldschmidt's urethroscope, the epithelium often appears to be desquamating. Later the veru montanum is found flattened, pale and withered, or bent and twisted almost out of recognition. The openings of the glandular ducts are small and contracted, or even closed and surrounded by a red areola which contrasts markedly with the general pallor of the neighbouring tissue.

The infiltrative changes in the veru montanum I have described must nearly always be ascribed to gonorrhoea, but personally I am quite convinced that chronic inflammatory processes can also follow gross venereal excesses, excessive masturbation, and a frequent practice of such sexual artifices as I have previously referred to. The long-standing hyperaemia thereby induced becomes localized in the colliculus seminalis, and a catarrhal condition with small-celled infiltration gradually establishes itself in this region, and involves in its progress the prostatic and ejaculatory ducts.

The symptoms evoked by the above pathological changes vary according to the stage of the disease and the individuality of the patient. Provided the inflammatory process is strictly limited to the mucosa, the symptoms are often trivial, or even absent; but if it extends more deeply into the substance of the colliculus seminalis, marked nervous disturbances are practically certain to ensue in a predisposed subject. Although one occasionally meets with cases presenting neurasthenic features where other parts of the genito-urinary apparatus are diseased, these cases are relatively few, and never assume as severe a type as when the lesion is located in the veru montanum. Deep chronic disease of the colliculus seminalis is characterized by those symptoms which we call "sexual neurasthenia"—that is, the spermatorrhoea of micturition and defaecation; prostatorrhoea, if the prostatic ducts are involved; pain on ejaculation, if the ejaculatory ducts are implicated; precipitate ejaculations, poor erections and frequent nocturnal emissions, complete impotency, relative or true sterility, together with a train of nervous phenomena and general physical and moral depression. Every practitioner knows of the intense mental agony and despair of these wretched sufferers, but, I fear, pays little or no attention to the pathology and treatment of the cause. The indifference, and even repugnance, of the profession towards these sexual neuroses is inexplicable, as no function of the body is more ultimately associated with the welfare and happiness of the human race than that of the sexual organs. By our neglect of a plain duty to humanity we drive patients into the toils of the charlatans; and, once the sufferer has been in the hands of a quack, he is, as a rule, rendered much more insusceptible to scientific treatment.

Internal remedies are of little or no value in the treatment of chronic disease of the veru montanum, and are at the best mere adjuncts to mechanical and local methods. The only two drugs from which I have obtained help have been potassium bromide in large doses and the fluid extract of *salix nigra*. If the colliculus seminalis be in a state of soft infiltration, with implication of the ejaculatory and prostatic ducts, every effort must be made to arrest its progress before the more sclerotic, and consequently more incurable, stages are reached. The most satisfactory way of aiding the absorption of the infiltrated area is by carefully painting the veru montanum with a fine camel-hair brush loaded with the medicament through the curved endoscope. With these applications one must proceed cautiously, and I usually commence with the ordinary tincture of iodine (*B.P.*) at intervals of a week. If insufficient progress follows this mild preparation, a 5 per cent. solution of copper sulphate is substituted; this again not proving effective, silver nitrate in 5, 10, or even 20 per cent. solutions may be employed, but the reaction must be carefully watched and allowed to subside before a further application is made. The solid salt I never, even under electric illumination, employ for "touching up" the veru montanum, for I am convinced that its indiscriminate and haphazard use, in the form of the *porte caustique*, has been responsible in the past for much sterility by causing occlusion of the ejaculatory ducts. In very obstinate cases the electric cautery may be employed, and if there are distinct polypoidal excrescences of the veru montanum these are best removed by a series of very circumspect touchings with a very fine cautery point. With any of the above applications, but especially the galvano-cautery, used recklessly, prostatitis, vesiculitis, or epididymitis may ensue; and I once saw, in the practice of a foreign colleague, a prostatic abscess follow too deliberate a burning of the veru montanum. If this area shows marked sclerosis the paintings will be useless, and the best results will be obtained by systematic stretchings with Kollmann's posterior urethral dilator followed by intravesical irrigations of silver nitrate solutions of the strength of 1 in 4,000. The constant current applied directly to the veru montanum by means of an appropriate urethral electrode has proved useful in my hands in some rather advanced stages; 2 to 5 milliamperes administered for five minutes is sufficient for each sitting. Even when the veru montanum has regained its normal appearance, as demonstrated by the urethro-scope, occasionally some of the neurotic symptoms persist; then Winternitz's cooling sound is often effective. Finally,

in cases where the prostate and vesiculæ seminales are also involved, systematic massage of these organs, with irrigation of the whole urethra, is indicated.

THE USE OF PURE ANIMAL WOOL IN MEDICAL AND SURGICAL WORK.

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My attention was drawn to the advantages of animal wool in June, 1906, when I was called to a child suffering from pneumonia. The father was a wool-stapler, and, on hearing that a Gamgee jacket had been ordered for his child, he brought to my notice a sample of very fine silk-like wool, and asked me to try it in place of the Gamgee tissue. I did so, and having used it on many occasions since, I feel that its advantages over the material in common use deserve wider recognition.

For cotton-wool is not wool but cotton, a purely vegetable fibre, the unadulterated product of the cotton tree; and whatever its advantages for swabs, sponges, and as a covering for deeper dressings, it is, where conservation of heat and retention of warmth is the object, inferior to animal wool. In cold weather instinctively we clothe ourselves in woollen garments, and even in summer or in hot climates find flannel more comfortable than cotton. For whilst cotton garments will not retain warmth in the cold seasons, they prevent the escape of the watery vapour from the skin in hot weather. The cricketer or athlete who sets about his work clad in cotton would soon be encased in wet, cold, clinging garments, uncomfortable whilst he exerted himself, and chilly when he rested after his exercise. To put on a Gamgee jacket is to imitate a cricketer or athlete who clothes himself in cotton. The application and removal of a Gamgee jacket are the work of the nurse, the ordering of it is all that comes within the province of the doctor. If the doctor could see a Gamgee jacket removed from the chest of a perspiring patient, who is perhaps taking diaphoretic medicine, he would find the inner surface of the jacket a wet, sopping mess. The cotton Gamgee prevents the transudation of vaporous perspiration, but animal wool allows the more ready escape of vaporous perspiration, whilst the comfort of the patient is infinitely greater.

In surgical cases, in patients about to undergo major operations, abdominal or otherwise, animal wool finds useful employment. Any means of diminishing the shock of operations, and especially of the prolonged abdominal operations which the achievements of modern surgery have rendered possible, claims recognition. And although after the operation hot-water bottles outside and hot saline solution inside the patient promote the return of vitality and warmth, their use savours of shutting the stable door when the steed has gone, or, to be more precise, of putting into a body heat which ought not to have been allowed to escape from it. It is much more difficult to get warmth into a cold or chilled living body than to maintain the heat already there by warm wraps and non-conducting materials. We must remember also that in prolonged operations the long anaesthesia lowers bodily temperature, and this should spur us to omit no precaution, however trivial, which will conserve the bodily heat of the mutilated patient. Operating tables with hot-water beds, to minimize shock, have been devised, but I have no experience of them, and I make bold to say that the use of animal wool goes far to make them unnecessary. The usual practice is to envelop the patient in a Gamgee jacket or suit, but animal wool is a heat retainer with which cotton Gamgee cannot compare, and when the lowering effects of the anaesthetic and the operation cause cold, clammy perspiration to exude, Gamgee tissue retains it and then becomes something of a refrigerator.

In every abdominal or serious operation I envelop the patient in animal wool. I can only give impressions, but it has appeared to lessen appreciably the degree of shock or collapse one expects after severe operations. "I have noticed," writes Dr. Dauber, Gynaecologist to the Hospital for Women, Soho,¹ "that patients are often subjected to too cold an atmosphere before entering the operating