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ON RETROVERSION OF THE UTERUS.

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In my last paper published in the *Provincial Medical and Surgical Journal*, I drew attention to the circumstance of my belief that anteversion of the uterus, in a slight degree, was a far more common occurrence than retroversion, at the same time that this latter, (particularly providing pregnancy co-exists,) is much more alarming in its character, and demands more prompt and direct assistance. If we take into consideration the situation of the uterus, balanced as it were in the centre of the pelvis, between the rectum and bladder, and supported merely by the latter, from assuming the oblique position likely to be given to it by the angle of the promontory of the sacrum, we can easily conceive how such should be the case; on the other hand, should the perpendicularity of the womb be altered, (its fundus, too, being heavier than ordinary, from any cause whatever,) from a distension of the bladder, and at the time an exciting cause is brought into action which would exercise a downward action, it can readily be imagined how the uterus, (especially if the rectum be empty, and the uterine ligaments relaxed,) would be forced backwards below the "promontory," and the disease about to be treated of, produced. This, then, is retroversion of the uterus, (the exactly opposite displacement to anteversion,) when the fundus of the womb is posterior, pressing against the rectum, and occupying the concavity of the sacrum, and the cervix anterior, jammed generally against the neck of the bladder, the womb thereby occupying a transverse, instead of a nearly perpendicular position in the pelvis.

The HISTORY of retroversion is peculiar and interesting: without doubt it was an accident well known to the ancients, although their ideas as to its real nature were not altogether very lucid. In the writings of Hippocrates and Philomenus the subject is spoken of. Cælius gives a description of it not inaccurate; also Rod à Castro, Mauriceau, and La Motte. The subject appears subsequently to have been almost lost sight of until Desgranges, in the year 1715, Gregoire, in 1746, and Hunter, (Wm.) in 1754, also Richher, in Germany, drew attention to it, and placed the matter in a clear

and intelligible light. The interesting case of Mr. Walter Wall, and Dr. William Hunter, which, being the first that had been noticed in this country, induced the latter distinguished physician to seize the occasion "to give a public lecture over the body of the patient." It is stated by Dr. Gooch, in his lectures, that in that celebrated case, "on examination after death, the bladder was found distended, the cervix uteri was turned upwards and forwards against the symphysis pubis, and the fundus had fallen downwards and backwards into the hollow of the sacrum, where it was so impacted as to be with difficulty dislodged." Retroversion occurs either suddenly or slowly, according to the nature of the cause giving rise to it; the extent also of depression may vary, but to constitute complete retroversion, the fundus must be situated below the promontory of the sacrum. The direction of the vagina also becomes altered, so that instead of its direction being upwards and backwards, it will be found upwards and forwards, the posterior wall of that canal being almost superior.

The causes are very numerous, but the recital of a great proportion of cases show that it is generally seen in connection with pregnancy, usually whilst the uterus is in the pelvis, and before the eighteenth week, and with a bladder largely distended. An exciting cause coming into action,—e.g., a fall or blow, vomiting or straining, either to void urine or fæces,* or even coughing, may, providing the pelvis is of full or unusual dimensions—the rectum being empty—force the uterus downwards and backwards, tilting it into the hollow of the sacrum. Early pregnancy, therefore, will act as a direct cause, by rendering the fundus heavier than ordinary, and thus more liable to over-balance itself on a slight cause being applied; as likewise moles, tumours affecting the posterior wall of the uterus, acting by their weight, extra-uterine pregnancy, an enlarged ovary,† or tumour‡ in the upper part of the pelvis pressing on the matrix, as in the case of the distended bladder. In the *unimpregnated womb*, retroversion may take place from congestion, such as occurs prior to, or at the menstrual period;§ from hypertrophy, especially of its posterior wall; from chronic metritis or severe ulceration of the cervix, accompanied, as is not infrequently the case, by an enlarged condition of the whole uterus; from scirrhus|| uteri, as also from the condition

* Marcet. Sir A. Cooper.

† Blundell, "Diseases of Women."

‡ Churchill.

§ Blundell. Pearson "On Cancer."

of the uterus immediately after labour.* Some writers would seem to think that retroversion *only* takes place whilst the uterus is in a state of impregnation, whilst my own experience, with that of some others, proves that such is by no means the case.† That the disease is not by a great deal so dangerous or aggravated in the case of the unimpregnated womb, as otherwise, must be allowed by all, and this will account for the latter receiving so much more attention; for the former, I believe, may and does often take place without being known by the patient or the medical attendant; rest in the recumbent position, and the action of an aperient, (perhaps the employment of the catheter once,) setting matters all to rights, without a suspicion having been excited as to the real nature of the mischief. Within the last three years I have met with three cases of retroversion of the uterus, each of them occurring in the unimpregnated state of the womb. The first was that of a lady suffering from inflammation of the uterus. On the sixth day, when all the acute symptoms had subsided, she suddenly got out of bed, and on so doing her foot slipped from the night steps, and she fell. Within three or four hours she was in pain in the pelvis, and when I first saw her she described to me this pain as being that of fulness and tension of the parts within the pelvis, with an uneasiness and slight difficulty in passing urine; in the evening these symptoms had increased, and I was led to associate the pain and difficulty of urinating with the fall, which made me institute an examination, when I found the womb retroverted. There was no difficulty in immediately pressing upwards and forwards the fundus, which action, by depressing the cervix, relieved the bladder and the sense of distension in the pelvis. Prescribing a dose of castor oil, and some morphia after its action, with a caution for the recumbent posture to be maintained, I left her, and after a few days she perfectly recovered. The two other cases occurred in females having hypertrophy of the uterus from old-standing ulceration of the cervix uteri. In the one, the bladder being full, dancing gave rise to it; in the other, without there being reason to suppose that there was at the time any distension of that viscus, severe vomiting and diarrhoea brought it about. There is every probability that these cases would have been overlooked, had not my attention been previously excited by anteversion in connection with this cause. A few days' rest might have relieved the malady without its true character being known. The matter, however,

is vastly different with the impregnated uterus, every day's delay only increases the evil, until the danger of the symptoms makes the disease to stand out in bold relief, even to the most unobservant of practitioners. I am much inclined to think, with M. Lisfranc, that hypertrophy of the unimpregnated uterus is not an unfrequent cause; and although I am not prepared to assert that retroversion is as much a disease of the unimpregnated as of the impregnated state, yet I am convinced that many cases of the former occur and get well without being recognized, whilst the accident taking place in the latter state, must immediately show itself, and by its dangerous character, excite the gravest attention.

A wide and large pelvis, a too great projection of the promontory of the sacrum,* have been spoken of as PREDISPOSING CAUSES; also a prolapse of the posterior wall of the vagina, which of necessity would give a backward obliquity to the womb.

The SYMPTOMS will vary a good deal as to whether the displacement is gradual or sudden. In the former case but little difference in the patient's feelings may take place, until such time as sufficient pressure is exerted upon the neck of the bladder to produce a difficulty in voiding the urine. In the latter, however, pain of an acute character will immediately affect the patient in the pelvis, a "bearing-down" sensation, with dragging about the groins from stretching of the broad ligaments. The "bearing-down" has been known to be so violent, that the case has been mistaken for one of miscarriage; the most distressing symptom, however, and that which troubles the patient most, is a difficulty, either more or less complete, of passing the urine. The retention is sometimes, but not *usually complete*; instead, a constant dribbling takes place, but at the same time the urine collects in a large quantity in the bladder; coupled with this there are very frequent and urgent involuntary bearing-down efforts to empty the viscus, which are seldom or never productive of ought but increased uneasiness; and as the secretion from the kidneys is not stopped, if the catheter be not employed in twenty-four or thirty-six hours, very severe pain will be occasioned. If the retention remains some time, the bladder may be felt above the pubis; and it is well to make a remark here, that in all cases of dysuria, especially occurring in early pregnancy, it is advisable to make an immediate examination, per vaginam, as the rectification of position is always rendered more difficult by delay. The next symptom of grave im-

* Churchill.

† My friend, Mr. Ness, of Yorkshire, was kind enough to send me the particulars of a case of retroversio uteri, *post partum*, of which the following is a copy:—"Mary H., aged 24, married, was taken in labour of her first child May 19th, 1846; the pelvis being very capacious, the labour did not continue more than half an hour, and the child was expelled before my arrival. She went on well until the third day, when I was hastily summoned, and found her complaining of violent bearing-down pains, and frequent inclination to make water, without the power of expelling it. These pains came on after having been up and dressed for some hours. On examination per vaginam, I found a large soft tumour occupying the perinæum, projecting towards and filling up the vagina. Not having heard or read of any case of retroversion after delivery, I supposed at first that it

might be perinæal hernia, (a fatal case of which I had once seen after delivery,) but finding on further examination that the uterus was not *in situ*, and that I could not reach the "os" with my fingers, I concluded that it was retroversio uteri, and succeeded in reducing the tumour by pushing it upwards and backwards with my hand in the vagina. Supposing, if my patient kept still and quiet in bed, the uterus would remain in its natural position, I did not then introduce any plug into the vagina, and in a few hours afterwards I was again summoned, and found that the tumour had returned on attempting to make water. I again reduced it, and this time filled up the vagina with soft rag, which I extracted at the end of two days. No return of the protrusion took place afterwards, but she was kept in bed for a considerable time as a measure of precaution."—J. Ness.

• Jourdan.

portance, is pressure of the fundus against the rectum, thereby producing severe constipation, or even a difficulty in going to stool at all. Obstruction generally takes place earlier in the rectum than in the bladder, partly from the fact of the more solid character of its contents, as also that the fundus uteri produces more pressure than the neck of that organ. When once this obstruction begins, it aggravates the displacement, from the pressure of the loaded bowels forcing down the "fundus," and as the bladder becomes more distended, it stretches, and draws up the "cervix" and vagina, of course thereby depressing still more the fundus. Nausea and vomiting are very frequent symptoms, and this, coupled with the pains, which are sometimes most acute, produce their effect upon the constitution; the patient becomes irritable, hot, and feverish, the pulse quick; thirst and a loaded tongue succeed; and cases have occurred where stercoraceous vomiting took place, and the distension of the bladder not having been relieved, its walls have burst, and, discharging its contents into the cavity of the abdomen, it has occasioned death by peritonitis.

Dr. Gooch* states that retroversion of the impregnated uterus may terminate "fatally by one of three modes, either by irritation, inflammation, or by sloughing of the bladder." Examination by the vagina will immediately convince us of an altered position in this canal, its direction will be almost reversed; instead of running backwards and a little upwards, it will be found *upwards* and *forwards*, its posterior wall will be slack and in rugæ, whilst the anterior will be upon the stretch considerably, so much so that the orifice of the urethra has been known by Richer to be drawn up above the pubic bones. At this point the vagina itself will appear flattened. Behind will be found a hard and round tumour, occupying the cavity of the sacrum, and on examination by the rectum it will be discovered lying between those two organs, preventing the further progress of the finger. This tumour is continued across to the pubic bones, against which it is applied, and if the distension of the bladder is not great, the os uteri *may* be reached, with some little difficulty, however; if otherwise, the finger cannot be carried further than the lower (or posterior) surface of the womb. The size of the tumour, of course, must depend upon the period of gestation, if *impregnated*, to which state the above symptoms alone pertain. The symptoms of the displacement in the *unimpregnated* womb are much slighter, and have been previously sufficiently dwelt upon.

The DIAGNOSIS of retroversion cannot be a matter of very great difficulty, and as the two most prominent symptoms are the difficulty of micturition and defæcation, this should lead us to an immediate examination, when the mechanical cause of the symptoms must be at once apparent in the altered situation of parts, the cervix of the uterus being directed forwards and upwards, and the fundus below and behind, between the vagina and rectum. Dr. Dewees has mentioned that the accident may be mistaken for prolapsus, but although to a certain extent the same general class of

symptoms may be excited, yet the information gained by an internal examination, is so positive that it is scarcely possible such could be confounded together. I cannot help thinking that Dr. Dewees, in stating that the one may be easily mistaken for the other, must have referred to retroversion with the neck of the womb bent at right angles, or what is called retroflexion, for in this case the os uteri will be pointing downwards, although it will not be so low as in the case of prolapse; and by tracing across the pelvis the continuity of the cervix and tumour (fundus) behind, the case will be most evident. From *anteversion* it must alone be detected by the "toucher," by which we shall find the opposite state of matters to exist, viz., the fundus, anterior, and the os uteri directed backwards. The retention of urine is generally more complete in *retroversion*. From *pelvic tumours* the diagnosis is more beset with difficulty; but if we can succeed in reaching the os uteri, notice its connection with the vagina, and thence tracing the uterus across the pelvis, the diagnosis is accomplished. These tumours do not often occasion retention of urine until they are too large to be mistaken for the retroverted womb. An extra-uterine ovum, or ovarian tumour might occupy the same situation, but the difference in their physical properties would discover them, the latter being softer and more elastic in its feel, besides for the most part being of slow growth, and little interfering with the bladder and rectum till a much later period. In the case also of the ovarian tumour, it is possible that the uterus would be pushed more to one side or the other. The distension of the bladder has been mistaken for ascites, and the operation of tapping actually proposed, but the suddenness generally of the swelling, the particular situation, its ovoid defined shape, above all the introduction of the catheter, ought entirely to prevent such an error. There is another circumstance which has been mistaken for retroversion, although it is a rare one, I refer to the impregnated womb not making its ascent as usual from out of the pelvis, but going on increasing until it produces pressure both upon the rectum and bladder, and occasioning all those pelvic pains usually found in uterine disorders; examination, however, can scarcely fail to detect the difference, as we here should find a firm tumour *blocking up* the pelvis, and the os uteri pointing downwards and very low. On the rectum and bladder being emptied as completely as possible, the uterus may be pushed up above the brim of the pelvis, and a few days' rest, by the growth of the uterus, will prevent a repetition of the evil. It may, however, be mentioned, that great care should be taken that the bladder, especially, be emptied before any force is exerted to raise the womb.

In the TREATMENT of retroversion of the uterus our first attention must be directed to the relief of the bladder, which, after a very short time, is found distended, and although in the majority of cases the retention of urine is not complete, yet the slight dribbling which takes place effects nothing towards the relief of the patient. Our thoughts must next be at once turned towards the important subject of endeavouring to restore the womb to its *normal position*.

* Lectures on Midwifery, p. 119.

This should never be attempted without the use of the catheter, and here commonly a difficulty is met with in its introduction, from the altered course of the urethra, and from its increased length, so that the instrument in common use will not enter the bladder. We must consequently have recourse to a male elastic catheter, which is the best adapted for the circumstances of the case. The function of the rectum being also interfered with, we must endeavour to clear it by means of an aperient clyster, and room being afforded anteriorly as posteriorly, cases are on record where the womb, even in the impregnated state, has righted itself. In Dr. Hunter's remarks upon Mr. Wall's case, he says—"the urine was completely drawn off by the catheter: then a sufficiently stimulating clyster was thrown up; and after the bowels were well emptied, it was always found easy to replace the uterus. In one instance the uterus of itself recovered its natural situation, immediately after the above mentioned evacuations had taken place. In another case there were several relapses, before the uterus grew so large that it could no longer fall back."* Such cases must, however, be very rare, if we take into consideration the impediments which present themselves to reposition, and more especially if the womb has been impregnated two or three months, and the displacement complete, and of some days duration. Some authors, and especially Burns, advocate the principle of leaving the reposition to nature, taking care that the bladder and rectum are constantly kept emptied. He states, that, "by this plan, we generally find that the uterus resumes its proper situation in the course of a short time, perhaps in forty-eight hours; and the retroversion is seldom continued for more than a week, unless the displacement has been very complete." In taking into consideration the propriety of endeavouring to replace the womb, we should keep constantly in view the term of gestation, and whether it be a first pregnancy or otherwise, (for in the former case the uterus is never so greatly developed at the same period as in the latter,) also the severity of the symptoms, and length of their existence. There can be no doubt that delay in rectifying the position, and placing reliance exclusively upon drawing off the urine, is frequently productive of grave consequences, and has been in some cases on record, of death itself. Blundell† recommends somewhat strongly a plan originally adopted by Denman:—"This consists in keeping the bladder thoroughly emptied, letting the patient drink but little, causing her to perspire as much as may be, and introducing the catheter some two or three times a day; the bladder being kept empty, the woman is placed with the pelvis inverted, for which purpose she ought to take the position on the knees and elbows. The longer time she passes in this posture the better; it may be necessary to use it for hours together; she is not to give way merely on account of the fatigue, but to continue it as long as the replacement may require. Adopting this plan, the bladder being empty, the womb will sometimes return to its natural position; may be

immediately, may be in an hour or hours, but I think I may venture to add that it pretty certainly returns at last. To this mode of treating I am exceedingly partial, because it requires nothing more than the introduction of the catheter, and the abstraction of the urine; there is no introduction of the hand into the vagina, no entrance of the fingers into the rectum, no force, no contusion, and no lacerations." Retroversion, however, in connection with pregnancy, must always be looked upon as a grave accident, and *should never be left to nature* if the symptoms are at all severe, for the efforts of nature are more likely to confirm than remedy the evil. I am authorized to make this remark from numerous cases on record, and I cannot help thinking that as much blame should be attached to the practitioner who allows the retroversion to continue unassisted, as would assuredly, were an inverted uterus to be permitted to exist without attempt at reduction. The case then, being without doubt ascertained to be retroversion, we should withdraw the urine, and exhibit an enema. If there is much pain about the pelvis, and there appears reason to believe that inflammation of the womb, bladder, or neighbouring parts exist, it will be proper to bleed, generally or topically, according to the circumstances of the patient; foment the pelvis, or use the hip-bath (warm) before attempting reposition; usually it will be found unnecessary. The reduction should then be attempted in this way:—the patient lying in the usual obstetric position, or, as some think desirable, on the knees and elbows, one or two fingers of the left hand should be introduced into the rectum, for the purpose of making pressure upon the fundus, whilst two fingers of the right hand in the vagina should attempt to hook down the cervix, which, by the way, is not easy of accomplishing; the pressure made upon the fundus through the rectum should be directed so as to avoid the promontory of the sacrum, for here the principal obstacle exists; for this purpose, therefore, the direction of the pressure should be *forward* and then *upwards*. Should the case be of that aggravated character where the womb is so jammed into the pelvis, that a difficulty is experienced in moving it, our efforts should not be relaxed, and the reduction put down as impracticable. The danger of leaving the case to nature is so great, that all *prudent* efforts should be used to overcome it, and some have even recommended introducing the whole hand into the rectum for this purpose. I can scarcely conceive such a procedure to be necessary, still the danger of delay is so great, that I look upon the risk to be incurred from bruising and stretching of the parts inconsiderable, when compared with the dangers it is intended to overcome. To obviate the necessity of introducing the hand, Mr. Halpin, in the *Dublin Journal*, some years since, recommended the employment of a bladder in the vagina, by which he would "*be able to inflate the pelvis, and thus raise its contents into the abdomen*." We acted on this suggestion." I attached a small recent bladder to the tube of a stomach pump with an air-tight piston, and having immersed it for a few moments in warm water, to bring it to the heat of the body, I introduced it empty into the vagina between the fundus of the

* Med. Obs. and Enq., vol. iv., p. 408.

† On Diseases of Women.

uterus and the rectum." Air is then gently to be thrown into it, and it was found to prove, in one case, very successful. It is certainly a useful suggestion, and one which it would be well to put in practice, before having recourse to harsher measures.

After the uterus had been replaced, there is generally a good deal of febrile irritability, with a tendency to inflammation in the vagina and neighbouring parts; in a general way little is necessary beyond the antiphlogistic regimen with an opiate and rest. The patient should be required to retain the recumbent posture exclusively for two or three weeks subsequently, and if any tendency exists to a repetition of the evil, Dr. Blundell's advice would be serviceable, viz., to cause the patient several times a-day to keep on her knees and elbows, and also not to allow a collection of urine to take place, but pass it as often as *practicable*. As soon as the womb (in the pregnant state) rises above the pubis all risk of a repetition is over, and caution as to posture will be unnecessary; but in the case of the unimpregnated condition it is different, more caution will be required, and she should maintain her couch much longer. In this latter case there is seldom any occasion for manual interference, and when required, the rectification is simple. Attention should here be directed to the peculiar condition of the uterus and the remedies suitable for its diseased condition immediately put in force, whether it be mere congestion, ulceration and hypertrophy, or tumours, &c. The above remarks have been made, presupposing the reposition to be possible, however much difficulty might have been experienced in its reduction; but cases are on record where this happy termination is seemingly not to be gained, without encountering difficulties of an alarming nature. The female is pregnant, three, or it may be four, months; the womb is retroverted, and the bladder full, containing perhaps many quarts of urine. An attempt is made to introduce the catheter, but our efforts are altogether unavailing. What then is to be done? An attempt should first be made to empty the rectum, then, by pressing back the uterus, to endeavour to pass the gum-elastic catheter. If this should not succeed, puncture of the bladder is our only resource, and has been adopted with success in the case of Cheston; for my own part I can scarcely think such a procedure is ever necessary. In the severest cases I have met with, (with the exception of Cheston's,) when the reposition was most difficult, an elastic catheter could be *insinuated* into the bladder. But, supposing the bladder to be emptied, we may be foiled in all our efforts to replace the retroversion, on account of the large size the womb has acquired, and the length of time the displacement has continued; two courses will then be left open to us, viz., the case can be left to nature, paying due attention to the bladder and rectum, and waiting until the womb has lost, by parturition, its contents. The objections to this plan appear to me to be so great, that I am surprised at its receiving the sanction of any name of the slightest weight, for it appears to be a breach of professional duty to allow almost certain death to stare our patient in the face, without an attempt being made to relieve her. Or, secondly, in the case of the pregnant womb, a bougie

may be introduced through the os uteri, if possible, in order to induce premature labour, and thus produce a diminution in the size of the womb; or, if this cannot be performed, Hunter recommended that the uterus should be tapped through the rectum or vagina. The latter would seem preferable. He did not live long enough to see his suggestion carried out, but it has since been put in practice, and with success. It has also been recommended by Capuron, Nanche, and Blundell. It is true that the operation necessarily supposes the destruction of the fœtus, but if the mischief be so imperative as to demand the operation of tapping the uterus, in all probability the death of the fœtus would have taken place prior to that time; independently of which, the axiom in British midwifery would hold good here, that the mother should not be sacrificed for the sake of the child. Finally, in these cases of such danger and difficulty, two other plans have been suggested, but so far as I am aware, *only* suggested, viz., (that by Callisen,) to open the abdomen, and immediately seize the uterus, and replace it; the other, to divide the symphysis pubis, with the intention of making more room for allowing of reposition of the womb. Both are frightful operations, the necessity of which I cannot conceive. They have been spoken of in commendatory terms by Callisen, Purcell, Gardien, and Cruikshank.

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ON THE STRUCTURE OF THE SYNOVIAL MEMBRANE COVERING THE SURFACE OF ARTICULAR CARTILAGES.

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Since the time of Hunter and Bichat it has been the generally-received opinion, that synovial, like serous membranes, form shut sacs, and that they are directly reflected from the ligaments over the articular surfaces of the bones which enter into the composition of a joint. This anatomical fact has not been doubted until lately, when Velpeau and some other French authors, in consequence of the difficulty of demonstrating the synovial membrane upon the surfaces of the articular cartilages, have come to the conclusion that it does not exist in those situations. Blandin has even asserted that the synovial membrane passes between the bones and their articular cartilages; whilst Blainville holds a kind of mixed opinion, and believes that when the synovial membrane arrives at the border of the cartilage it splits into two laminæ, one of which is continued over its superficial, and the other over its deep surface. Lastly, M. Bichat, who has written a clever thesis on white swellings and diseases of joints, asserts that the synovial membrane advances for a very short distance, perhaps a quarter or one-eighth of an inch upon the surface of the articular cartilage, and then ceases; and he is of opinion that the epithelial layer which Henlé has described as covering the cartilage, is nothing more than an appearance which the superficial cells of the