Clinical Lectures ON FLEXIONS OF THE UTERUS.

Delivered at University College Hospital,

BY GRAILY HEWITT, M.D., F.R.C.P.,
PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN AT UNIVERSITY COLLEGE, EXAMINER IN OBSTETRIC MEDICINE AT THE UNIVERSITY OF LONDON.

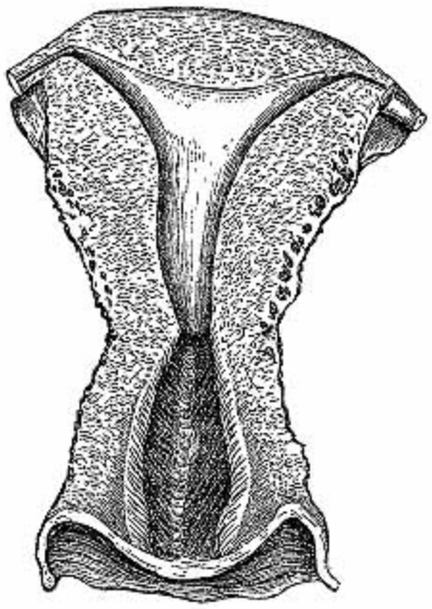
LECTURE I.

GENTLEMEN,—The subject of uterine flexions is a comparatively new one in relation to uterine pathology. The existence of flexions has been recognised, but the doctrine of the preponderating importance of flexions in relation to uterine pathology, which it is now my object to inculcate, this doctrine is new. That flexions constitute the most frequent as well as the most important of the diseases of the uterus, is demonstrable by statistics of the practice in the department for diseases of women in this hospital, of which I have accurate records for a period of over four years, and shall lay before you later on.

Another definition may be given of flexion—*disease of the uterus the essence of which is a change of shape.* That is, on the whole, perhaps, the best method of formulating the opinion which I wish to express, and it conveys the whole idea. You will observe that in this definition it is not implied that flexion is the only thing which is important, or that it is the only condition which is or may be wrong in the uterus; but it is implied that flexion is the most important element in the matter.

As an introduction to what has to be stated later on, we may consider for a moment the anatomical relations of the uterus, predisposing, as it can be shown they do, to a change of its shape. Consider for a moment the manner in which the uterus is suspended in the pelvis. The upper part of the uterus, which is the main part of it, has no attachments, posteriorly or anteriorly, sufficient to absolutely maintain it in one position. The uterus is suspended in the middle of the pelvis, but it is suspended in such a manner that a degree of motion is allowed anteriorly and posteriorly, and there is much more motion allowed at its upper than at its lower part. It rarely moves from side to side, because laterally there are attachments which bind the uterus pretty effectually to the sides of the pelvis. And with reference to the cervix of the uterus, this is kept in its place pretty effectually by means of its connexion with the bladder and the vagina at the upper part. The axis of suspension of the uterus, as it has been very properly designated, is represented by a horizontal line passing through the uterus from side to side, and about the situation of the internal os uteri. This leaves about half of the uterus above this part and about one-half below it. The lower half is more effectually fixed, and the upper part is very ineffectually fixed, except in reference to lateral motion, which is not allowed except to a slight degree. Now what are the hindrances, it may be inquired, in reference to change of position of the upper part of the uterus? That is the part with which we are mainly concerned. It is quite obvious that the broad ligaments, which are the lateral attachments of the uterus, impede lateral motion. The round ligament is an important structure. It is attached to the upper part of the uterus on its anterior aspect; and when the round ligaments are intact, the motion of the upper part of the uterus backwards is, to a certain extent, and to a certain extent only, controlled. They seem to be so placed as to be intended to prevent this occurrence. With reference to the motion of the fundus uteri forward, there appears to be very little hindrance. The bladder is the chief obstacle to anterior motion of the uterus. The bladder, when distended, prevents the fundus uteri from falling forwards; but of course the bladder is not always full, and when it is empty there is nothing to preserve the uterus in its position—nothing of a special character, that is to say. Another element in the case next to be mentioned constitutes an important hindrance to anterior or posterior motion of the fundus uteri: it is the resistance of the uterus itself. The healthy uterus is an organ having very thick walls. The cavity is exceedingly small in proportion to the thickness of those walls, as will be seen on reference to the diagrams

FIG. 1.



(see Figs. 1 and 2). The thickness of the walls of the uterus, as is very evident, forms a very important element as a resistance to alterations of the position of the fundus uteri. It is apparent that if the cervical part of the uterus be held pretty firmly in its place, the position of the upper part will be well maintained by the thickness of the walls. And thus this rigidity of the uterus itself—as it may be termed—unquestionably constitutes a very powerful hindrance to displacements of the fundus uteri. Subsidiary to these hindrances already mentioned must be added the general connexion of the uterus with the adjacent viscera by means of bloodvessels and cellular tissue surrounding the bloodvessels, also the peritoneum. But it cannot fail to be observed that these subsidiary means of attachment of the uterus apply, for the most part, to the lower part of the organ, and they do not, excepting indirectly, help to fix the upper part of the uterus. The Fallopian tubes aid very little in preventing anterior or posterior motion. This very delicate adjustment of the uterus in its position in the pelvis—for it is a very delicate adjustment—is a physiological necessity. It would be impossible otherwise for the uterus to expand, and it would be impossible for it to undergo those changes of position which are involved in the existence and course of pregnancy, were it not for the fact that the attachments of the uterus are such as now described. It is the upper part which undergoes this expansion in pregnancy in order to fit it to become the residence of the fœtus, and this part is left comparatively free. But for the physiological necessities involved in the propagation of the species the uterus would doubtless have been fixed much more firmly and with less liability to these alterations of shape and position.

We now come to consider the *causes* of flexion of the uterus. If we wish to trace the pathology of any disease, we search out its beginning; we endeavour to ascertain the point at which the healthy action passed into one unhealthy or diseased. When the disease is far advanced, it is often very difficult to determine its real etiology and pathology. Various complications have been by that time added, and various secondary effects, which mask the primary one. For this reason I just now directed your attention to the shape and position of the uterus, and the methods by which it is sustained therein. A slight failure in any one of these conditions of equilibrium is really the beginning of a flexion.

We may usefully divide the causes of flexion into two—the predisposing and the exciting causes.

One of the most important of the predisposing causes is *an unhealthy state of the body generally;* another is a previous pregnancy. These are the most important predisposing causes of flexion of the uterus; and I will say a word or two respecting each of them. The tissues of the

body, imperfectly or badly nourished, are relaxed and wanting in tonicity. The circulation in the bloodvessels is retarded under these circumstances—it is sluggish and imperfect; and the tissue-changes take place with greater slowness than under ordinary circumstances and in a state of health. The effect of this state of things upon the uterus is most marked: it increases in size; its circulation becomes slow; and, as a necessary mechanical result of this, flowing from the considerations which I have just laid before you, there occurs a diminution in the rigidity of the uterus itself—one of the most important agents, as I have endeavoured to show, in preserving the uterus intact. In other words, the uterus becomes pliable to an unusual degree. This is a state of things which constitutes a very strong predisposition to a change of shape in the uterus. In what class of individuals do you observe such a condition as this? In young women who are growing very fast, in whom the vital processes ought to be exceedingly active, at the age of twelve to fifteen or eighteen; who are badly fed, surrounded by hygienic circumstances of a deteriorating character, especially so when confined in close apartments and workrooms. These are the conditions of life which predispose to this want of rigidity of the uterus. The other predisposing cause which I have to allude to is *pregnancy*. If the uterus has undergone the expansion and enlargement inseparable from pregnancy, there is thus constituted a predisposition to flexion, and the predisposition is created in the following manner:—After pregnancy is over and the uterus vacated, it is some time before the organ returns to its normal dimensions. In fact, it does not return to the dimensions which existed before. In round numbers, the increased size would be represented by one-fourth in the healthy uterus after normal gestation and its effects have properly come to an end. In the next place, it must be stated that the quickness and rapidity with which the uterus becomes reduced in size after pregnancy is very various. In some cases the uterus is exceedingly slow in returning to its normal dimensions. If the process goes on healthily, the uterus speedily returns to its proper size—probably within a month; but in other cases it is a considerable number of months before the uterus is found of its normal size. This involution of the uterus, as it is termed, goes on in this inactive manner in a very considerable number of instances; but even when it goes on to the full extent and with the usual quickness, the uterus is still left larger than it was before. And it must not be forgotten that the increased size affects not so much the cervix as the body of the uterus, which, as already stated, is, from its want of connexion, more predisposed to a change of position. These constitute the predisposing causes of flexion. There are several others, but these are the two main ones.

Next we come to exciting causes. The exciting cause is sometimes simply an exaggeration of the predisposing ones. For instance, an ill-nourished woman becomes pregnant. There we have the two classes of predisposing causes in operation together. Here the uterus is a long time in returning to its proper size after the labour is over; the patient very soon falls pregnant again, and perhaps a third or fourth time. Thus the uterus has very little rest: it has scarcely time to recover the effect of one pregnancy before another pregnancy follows. The result is that, in following her ordinary avocations, the uterus in such a patient gradually gives way. The upper part of it, that is to say, comes to assume a position which is partly one of flexion; and when the flexion has once arrived at that point, the patient has generally no more children. She is liable to miscarriage; and if she conceives, that conception is followed by miscarriage. Most frequently she does not conceive, and the uterus is left in this flexed condition; and if it attracts no attention, it remains so and never gets cured. The case which I have just laid before you is one which shows that constant action of predisposing causes leads to the disease by itself, the predisposing causes acting by themselves; and when we get the two together we have what amounts to an exciting cause. The other exciting causes to be mentioned are of a more positive and direct character. One important exciting cause is an accidental strain or fall, such as in the following case:—A lady standing at her door is about to step into a carriage; the servant is sent to fetch something; she stands by the horse's head; the horse suddenly takes fright and starts forward; the lady holds on by the rein, and is dragged some yards. She undergoes great exertion there and then, and the result is that the uterus is forced downwards and backwards, and retroflexion of the organ is instantly originated. I need hardly say I am now giving you an actual case. Take another instance:—A young lady, previously in a state of good health, but unused to much exertion, goes to a ball, and, not accustomed to dancing, dances for a long time together—for five or six hours. She feels rather ill; and, to add to this, the following morning, on coming down stairs, she slips and falls on her back, passing over four or five steps, and receiving a violent jerk. She experiences intense pain; and it is found on examination a few days afterwards that the uterus is acutely anteflexed. Another instance:—A lady, four days after parturition, in the absence of her nurse, rises from her bed, and walks across the room to get something. She experiences a sudden severe pain, and returns to her bed. She makes light of it at first; but a few months afterwards, after undergoing a course of continuous discomfort, it is found that she is suffering from retroflexion of the uterus, which originated doubtless as I have mentioned.

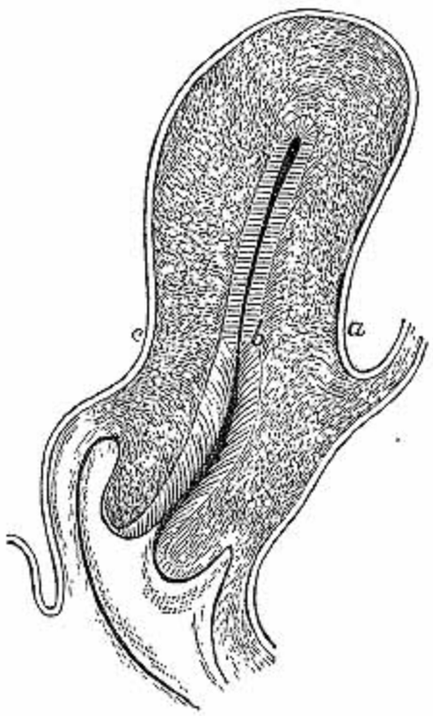
I might multiply instances *ad infinitum* in which it was demonstrable that the starting-point of the flexion was an accident. Another exciting cause of flexion of the uterus is the position of the body. It is quite certain that remaining in a constrained position daily for a great number of hours has a very important influence in the production of one of the forms of flexion of the uterus. I mean anteflexion. Young women, for instance, employed in a dressmaking establishment, and following their occupations for many hours during the day, without any opportunity of taking exercise, combined not seldom with bad living, and thus bringing into play the predisposing causes also. It is not at all rare to find, under such circumstances, that the uterus becomes anteflexed. The use of sewing machines I have observed to be followed by the same result. This is due to the position of the body. A word more in reference to pregnancy as a cause. We frequently find in practice that patients attach extreme importance as regards the commencement of their maladies to their confinements, suspecting the illness to be due to some peculiarity in the confinement itself. Undoubtedly when the perineum has been much injured that is a source of mischief, and may lead to this and other disorders; but flexion may originate without injury of the perineum.

How, it may be asked, does the fundus of the uterus descend forwards or backwards, as the case may be? It descends in consequence of the pressure from above when a sudden or forcible exertion involves putting into a state of rigidity the abdominal muscles. The viscera of the abdomen receive the pressure, and that which offers the least resistance, of course, will give way. It is a matter of accident whether the fundus moves forwards or backwards. That is determined by other conditions which I have to put before you presently.

We pass now to the study of the *varieties* of flexion of the uterus. Supported as the uterus is at each side, lateral flexion is very rare. The uterus is generally either bent forwards or backwards, constituting in one case anteflexion, in the other retroflexion. With reference to the comparative frequency of these two events, the following is, I believe, the truth on the subject. Anteflexion of the uterus is more common than retroflexion, and in the proportion of about three to two; but severe anteflexion is more rare than severe retroflexion. A consideration of the attachments of the uterus gives the clue to this. The drawing exhibited (see Fig. 2) represents the normal shape of the uterus, and the position of the bladder. It is seen that the peritoneal pouch behind the uterus (*c*) is much deeper than that in front of it (*a*). There is, in fact, less support for the uterus behind than there is in front. When the fundus gets bent backwards, it will be seen there is more room for it, and that it can descend further posteriorly than anteriorly. The pouch behind is much the deeper. In front there can hardly be said to be a pouch. That is why the flexion in retroflexion is often more acute than in cases of anteflexion. You may, perhaps, ask at this stage of the inquiry, What is the difference between flexion and version? In point of fact, version very rarely occurs without some degree of flexion, nor does flexion usually occur without some degree of version. Simple retroversion, with no actual curving of the uterine canal, I do not know that I have ever witnessed, but I have

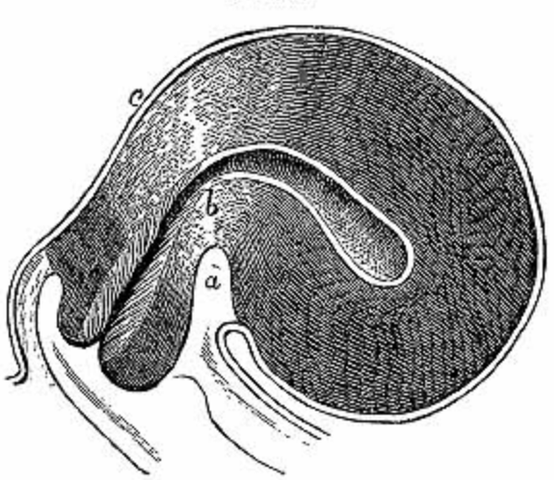
seen one or two cases of very complete simple anteversion in cases of forward inclination of the uterus.

FIG. 2.



Let me, in the next place, call your attention to some of the *pathological effects* of flexions of the uterus. The drawing on the board (see Figs. 1 and 2) represents the comparative thickness of the walls of the uterus, as shown by a section through it transversely and from before backwards. What would be the effect upon the uterus of a bending of the organ? It would obviously be to produce a compression of the tissues of the organ at the seat of the bend. Such compression is in the nature of things inevitable. The distance between the external and the internal wall will be diminished. The diminution of the thickness of the walls of the uterus will take place to a greater extent on the concave side of the bend. There will be a diminution of the diameter at the position of the flexion (*a*, *b*, *c*), and the general result will be that there is a compressing force exercised at the middle of the uterus upon the tissues of the organ (see Fig. 3). What will be the effect of this compression? The

FIG. 3.



arteries of the uterus pass into it from its sides. They come from the uterine artery, one on each side passing upwards from below. There is another supply of arterial blood from above by means of the small Fallopian branch of the spermatic artery. Were it not for this small branch the effect of forcibly compressing the uterine arterial branches would be that the upper part of the uterus would get very little blood at all. It is certain that compression, such as occurs in flexion, and is exercised on the middle part of the uterus, has the effect of materially retarding the circulation in the vessels, veins as well as arteries traversing the body of the uterus. The result is, in effect, *a congestion of the body of the uterus*, and, in a less degree, also a congestion of the *cervical* part of the organ. In order to give prominence to this mechanical effect, and to signify its clinical importance, I have ventured to describe it under the title of "Strangulation of the Uterus." It is, I believe, an inevitable result that the circulation in the upper part of the uterus should be in a considerable degree interfered with when compression is thus exercised upon the uterus and its vessels, the result being that the upper part of the uterus comes in the end to contain a larger portion of blood than usual. It becomes unduly heavy and larger. It becomes not only congested, but likewise unduly sensitive, to an extraordinary degree in some cases; and the congestion and undue sensitiveness constitute the most important of the phenomena, to a less degree in anteflexion than in retroflexion, but even in the former cases to a marked degree in many instances. This compression in the middle of the uterus has various effects in different cases. After a time, if the flexion is not very acute in degree, the uterus may become habituated to it, and flexion becomes after a certain interval less embarrassing to the uterus. The uterus acquires toleration to a certain extent, and then we do not see the patient. But when it does not acquire that toleration, or when, as frequently happens, the malady increases, we have an opportunity of witnessing these effects; the fundus uteri is found sensitive, swollen, and tender to a degree; the patient is in a state of discomfort which hardly any physical condition of other organs of the body can exceed. The compression of the uterus is a phenomenon to which I attach great importance as a feature in the natural history of these cases. Various writers on this subject take views on the matter which differ considerably from those which I have just laid before you. It is held, for instance, that this congestion, or so-called inflammation, of the upper part of the uterus is not the only primary evil, but the cause of the pain in these cases of flexion; while the flexion itself is of secondary consequence. I would wish to speak with all respect of the opinions of others; but I must say that my experience has led me to take a very opposite view. The inflammation or congestion of the upper part of the uterus is generally considerable. It is only so far primary in the degree and in the manner I have already pointed out in speaking of predisposing causes of flexion. Thus a congestion of the upper part of the uterus, which we may suppose to exist to begin with, may, in the first instance, produce flexion. Having done that, the flexion will react upon the congestion, and will increase it; and, unless cured, it will prevent the cure of that congestion. I do not at all deny the importance of this element of fulness of the bloodvessels of the upper part of the uterus—very far indeed from that; but the relation which exists between the two things is, I believe, the one which I have endeavoured to lay before you. This view influences the treatment in these cases very decidedly indeed; for whereas others are disposed to treat the affections, at all events in the first instance, by bloodletting and leeches—a treatment which has for its effect removal of congestion,—I submit that such cases should be treated by going more to the root of the matter—viz., by an alteration of the shape of the uterus, which is the means of keeping up the congestion. And this method of treatment I have had the greatest reason to be satisfied with in practice.