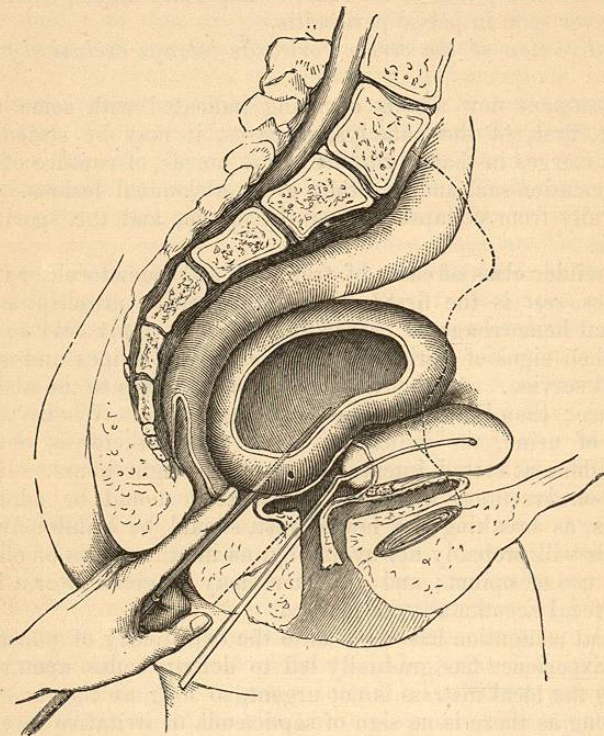


may scoop out what can be easily reached with the handle of a spoon; but generally it is wiser not to meddle too much. In some cases it may be more convenient to puncture by the rectum, as shown in Fig. 111. An excellent way of opening the cyst is by the galvanic knife or Paquelin's cautery-knife.

FIG. 111.



This figure is intended to show the relative position of the uterus and rectum and intervening cyst. The sound in utero having settled the position of the uterus, the trocar is thrust as nearly *parallel* as possible to the posterior wall of the uterus. The dotted line behind the sound shows how the perineum is held back by the finger during the use of the instrument. The direction of the os uteri, looking downwards and *backwards*, should be compared with that of the os uteri, the figure of retroflexion in which the os is tilted a little *forwards*. (R. B.)

In cases where decomposition arises, the sac should be washed out twice a day with Condé's fluid, or weak carbolic acid.

Out of fifty-three cases of recovery tabulated by Tuckwell, thirty were treated without any operation. The remaining twenty were punctured. But it is at least doubtful whether in some of these latter the puncture was not superfluous, whether, indeed, it were not a source of danger.

One source of such danger is the admission of air into the sac, and the consequent decomposition of its contents. Aran records a case of this kind in which puncture was made by an exploratory trocar, a fistulous opening remained, and death ensued from putrid infection.

Here, as in all other pelvic and abdominal inflammations, it should be

a standing rule to *avoid repeated examinations*. Manipulation must disturb parts which above all things require repose; it can hardly fail to irritate and aggravate inflammation; it may burst the blood cyst, and lead to a fatal renewal of hemorrhage and peritonitis.

CHAPTER XXII.

DISPLACEMENTS OF THE UTERUS, GENERAL PROPOSITIONS: DEFINITION; VARIETIES OF: PROLAPSUS DESCRIBED; HYPERTROPHY OF THE VAGINAL PORTION; OBLIQUE OR LATERAL DISPLACEMENTS: ELEVATION; DEPRESSION; ELONGATION BY STRETCHING AND PRESSURE; DISLOCATIONS OF UTERUS BY EXTERNAL PRESSURE; VERSIONS AND FLEXIONS; ANTEVERSION; ANTEFLEXION; RETROVERSION; RETROFLEXION.

FEW subjects in medicine have exerted keener controversy than that of displacements of the uterus. Some dispute the reality of these displacements; others dispute their frequency or their importance. The first order of disputants, who simply deny what they have failed to recognize, chiefly consists of those who do not avail themselves of the necessary means to recognize the physical condition of the pelvic organs. To deny the existence of displacements of the uterus without physical examination is as unreasonable as it would be to deny displacement of the heart or of a joint without physical examination. And there is something more than unreasonable in the pretension of those who, thus refusing to examine for themselves, repudiate the experience and authority of others who speak with knowledge.

All who are in the habit of examining the pelvic organs when they show signs of distress recognize the clinical fact that displacements of the uterus are not only real but frequent.

But amongst those who admit this clinical fact, there prevails a diversity of opinion as to the primary and essential, or the secondary importance of these displacements. I hope to evolve satisfactory conclusions upon this question in the progress of this chapter.

We may usefully start with the following propositions:—

1. The uterus is naturally a mobile organ, possessing within the limits of health a considerable range and variety of motion. (These natural movements are described at p. 37.)

2. These natural limits are liable to be overstepped under the sudden or repeated or continuous application of undue force acting upon a uterus increased in bulk or weight, or imperfectly sustained by failure of its natural supports.

3. The uterus is no exception to the general law that displacement beyond its physiological limits entails difficulty in the performance of its functions.

4. Nor does the uterus offer an exception to the pathological law that displacement, which implies encroachment upon the seat of adjacent organs and pressure upon them, will cause distress in the organs immediately encroached upon.

5. Nor does the uterus offer an exception to the correlative law that distress in the performance of an organ, or a group of organs, will react upon the nervous, vascular, and nutritive systems, and thus entail remote symptoms and general disturbance of the organism.

All these propositions are incontestably proved by anatomical, physiological, and clinical observations.

6. Another proposition may be added: Although displacements are often initial or primary, disease ensuing as a consequence, when disease assails the uterus, displacement or deformity more or less marked is sure to be induced, thus aggravating the original disease, and adding the morbid complications peculiar to displacement.

7. Admitting the foregoing propositions, it follows, as a therapeutical corollary, that one essential factor in the successful treatment of all uterine diseases consists in correcting displacement or deformity.

Definition.—The uterus may be said to be displaced whenever it is removed from its usual position by some more or less persisting cause. Of course allowance must be made for the normal mobility of the organ. Movement within certain limits, if followed by return to the normal static position, is not regarded as displacement.

Varieties.—The *displacements of the uterus* are as follows:—

- Upwards or elevation.
- Downwards or prolapsus.
- To either side or lateral deviation.
- Forwards.
- Backwards.

In all the above displacements the uterus may for a time preserve its normal form and size; its axis may remain unchanged; its shape may be unaffected.

In displacement with reference to the axis of the pelvis, the uterus may be altered in its inclination: that is, its fundus may be inclined forwards, constituting anteversion; backwards, constituting retroversion; to either side, constituting right or left lateriversion. These displacements are estimated chiefly by the deviation of the body of the uterus from its central position, the cervix remaining more or less fixed by its axis of suspension to the base of the bladder.

Displacements may be associated with change of form. Thus, the uterus may be bent, its axis undergoing deviation. It may be bent forwards, constituting anteflexion; backwards, constituting retroflexion; to either side, constituting right or left lateriflexion. The uterus also may undergo torsion or twisting on its axis. (See Figs. 23, 24, 25, 26, pp. 49, 50.)

PROLAPSUS OR DESCENT OF THE UTERUS.

It will be convenient to begin with the description of prolapsus. This is, if not the most common of all the displacements, at any rate that which most frequently comes under treatment.

In the great majority of instances the history is a continuous one, beginning with labor, and marked successively by uterine engorgement, sub-involution, inflammation, prolapsus, retroversion, and hypertrophy.

The most rational and profitable course then must be to follow the historical order; to study first immediate consequences of labor, and then to trace out the subsequent events to their full accomplishment. The first chapter of this history has been already traced.

The leading fact then in the history of prolapsus of the uterus is imperfect involution after labor. If this great fact be kept steadily in mind, and the lessons in practice which it dictates be carried out, many cases of prolapsus will be prevented altogether, and many more will be arrested in their early and most curable stages.

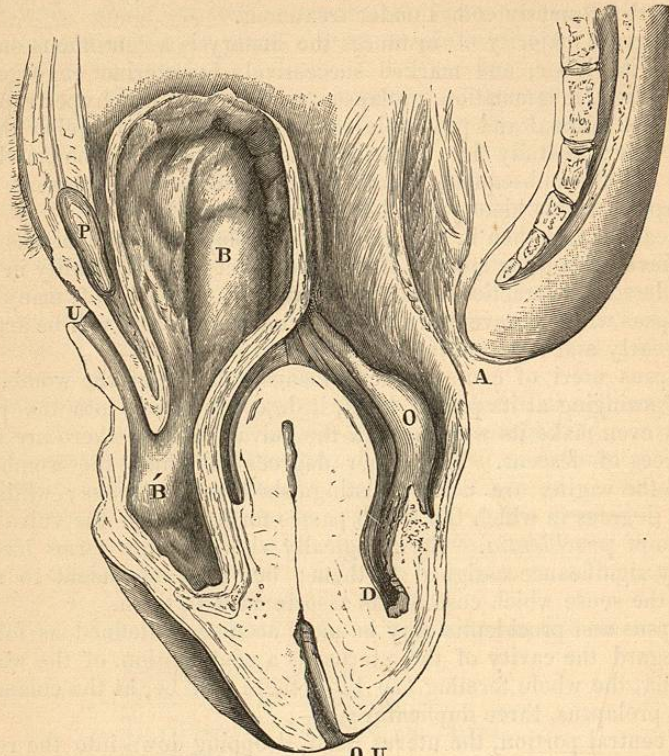
Prolapsus uteri of course strictly means a falling of the womb. Instead of swinging at its proper level, it descends lower into the pelvis, and may even make its way through the vulva. Hence there are different degrees of descent. The minor degrees in which the womb only drops in the vagina are usually distinguished as *prolapsus*; whilst the extreme degrees in which the womb passes forth through the vulva bear the name of *procidencia*. Etymologically viewed, these terms have an arbitrary significance assigned to them; but it is convenient to retain them in the sense which custom has associated with them.

Prolapsus and procidencia may be more accurately defined as follows. If we regard the cavity of the uterus as a continuation of the walls of the vagina, the whole forming one tube, there will be, at the commencement of prolapsus, three duplicatures:—

1. A central portion, the uterus itself, dropping down into the roof of the vagina, is invaginated.
2. Then there are the two folds or reflections of the vagina, one of which, representing the part in which the uterus is inserted, is carried down inverted by the uterus; the other is the part of the vagina which retains its normal position, and received the inverted portion containing the uterus. So long as this stage of depression, of partial inversion of the vagina by the squatting of the uterus continues, there is prolapsus.
3. Procidencia exists when the body of the uterus, continuing its invagination, has passed quite through the vulva. When this has taken place, there are only two duplicatures, viz., the uterus which has passed into the now nearly completely-inverted vagina. As Cruveilhier, however, observed, some vestige of the second duplicature formed by the vagina is constantly met with in the furrow of greater or less depth, situated behind the procidencia mass; for though the inversion of the anterior wall of the vagina may be complete, that of the posterior wall is scarcely ever so. Hence the tumor, caused by prolapsus uteri, is always longer in the vertical direction in front than it is behind. The theory of prolapsus and procidencia uteri may be summed up as follows: Invagi-

nation or intussusception of the uterus is prolapsus; complete inversion of the vagina or hernia uteri is procidentia. (See Fig. 112.)

FIG. 112.



Complete Procidentia Uteri (R. B.)

P. Symphysis pubis. B. Bladder. U. Urethra drawn almost vertically downwards to open into B', a sacculated diverticulum of bladder outside the vulva, and in front of the procident uterus. O U. Os uteri. D. Douglas's pouch, extended outside the vulva. O. The ovary dragged down. A. The anus. (Half size, from St. George's Museum.)

In complete prolapsus the inverted vagina contains the uterus. This is hypertrophied; its cavity is mostly enlarged, filled with mucus. Besides the uterus, the vaginal-sac commonly contains in front a portion of the bladder-base; behind, the anterior and lower part of the rectum. Looking into the pelvis from above we see between the bladder and the rectum a funnel-shaped cavity, in the depth of which lies the fundus of the uterus, dragging down after it the tubes and ovaries. (See Fig. 112.)

Such then is the typical form of prolapsus and of procidentia. The uterus, by its attachment in front to the base of the bladder, is tethered to the pubic bone by its lower third. The consequence is, that as the uterus descends towards the outlet, it must revolve round the pubic bone as a centre. The fundus then gradually rolls back, so that retroversion keeps pace with prolapsus, and when prolapsus has merged into procidentia,

the fundus will be directed backwards towards the anus, whilst the os externum will be turned a little forwards. The exact position of the uterus at any point of this downward course may be accurately determined by the fingers and sound. The lower the uterus the more the point of the sound must be turned backwards to pass along its canal, and the more easily will the fingers in the rectum get above the fundus. When the procidentia is complete the whole uterus may be grasped between fingers and thumb, and its contour and size exactly made out, through its sac of inverted vagina. (See Fig. 112.)

FIG. 113.

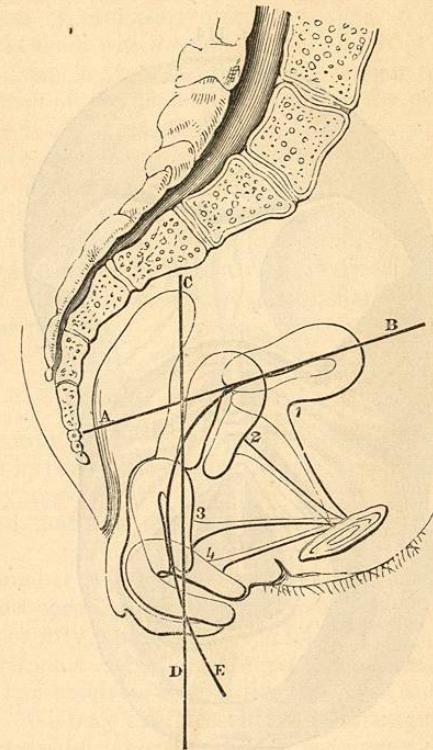


Diagram Illustrating successive Stages of Prolapsus of Uterus, and the attendant Degrees of Retroversion (R. B.).

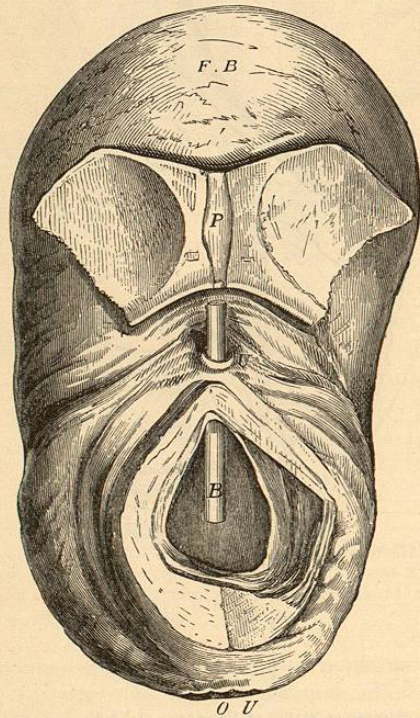
A, B. Axis of brim of pelvis. C, D. Axis of outlet. B, E. Curve of Carus, or curvilinear axis of pelvis. 1, 2, 3, Stages of prolapsus. 4. Procidentia. The uterus tethered to the symphysis, revolves round it in descent.

The alteration in the course of the urethra sometimes makes it difficult to introduce a catheter. The catheter passes backwards and downwards into the substance of the tumor to a greater or less extent, according to the degree of procidentia. A good idea of this, as well as of the appearance of the tumor of procidentia, may be formed from Fig. 112, which I have drawn from a specimen in St. George's Museum.

The analogy between procidentia uteri and hernia has always attracted

attention. The inverted vagina is the hernial sac; the uterus is the displaced intestine. Not uncommonly the sac contains a mass of small intestines besides. Owing to the peritoneum descending below the uterus and behind the upper fourth of the vagina before it is reflected upwards over the rectum, a deep pouch is formed, which undergoes great extension as the uterus and vagina are carried downwards. This pouch may receive an enormous mass of small intestines, so that the external swelling may be as big as a man's head. The intestine may be plainly felt by its gurgling. The anterior cul-de-sac of the peritoneum formed by the reflection from the bladder on to the anterior wall of the body of the uterus is too shallow to admit the small intestines into it.

FIG. 114.



Prolapsus uteri, Front View. Uterus, Bladder, and Pubic Bones Removed *en masse*.
P. Symphysis pubis. F. B. Fundus of enlarged bladder. B. Bladder opened, bougie passed into it from U, urethra. A pouch of bladder is drawn outside by the uterus. O, U. Os uteri. Half-size, from specimen in St. George's Museum (R. B.).

The descent and inversion of the anterior wall of the vagina necessarily drags the base of the bladder and urethra with it, causing sacculation of the bladder and deviation of the urethra from its natural course. The degree of displacement, however, will depend somewhat upon whether the prolapsus have taken place gradually or quickly. If it have taken place quickly, the organs are carried down bodily together; but if the prolapsus be of slow production, the connective tissue uniting the vagina

and bladder may yield and stretch a little, so that the urethra may not be so much distorted. But in the majority of cases the base of the bladder is so drawn down below the level of the meatus, that its contents cannot be perfectly voided. The constant straining to accomplish this causes distension and the gradual formation of a vesical pouch, which is partly outside the vulva. In this pouch there is a continual tendency to stagnation of urine. This leads to the deposit of lithates and phosphates, and the concretion of calculi in the diverticulum. But Cruveilhier met with a case in which the whole cavity of the undisplaced portion of the bladder was filled by a calculus. Golding Bird pointed out how it led to formation of phosphates and ammoniacal urine. Dr. G. Roper related to me a case of prolapsus uteri et vesicæ, in which the bladder contained several calculi which could be rattled about by the hand. A similar case of complete procidentia with eversion of the vagina, and calculi in the pouch of the bladder was under my care at the London Hospital. There is also great liability to kidney degeneration as a retrograde consequence. According to Cruveilhier, the deviation of the meatus urinarius is less the effect of the displacement of the bladder than of the anterior wall of the vagina. The bladder generally is greatly enlarged. Wilks says (*Pathological Anatomy*, Ed. 1875), that when the bladder is drawn under the pubic arch, the ureters may be compressed against the arch. On two occasions compression of the ureters thus induced led to fatal pyelitis.

HYPERTROPHY OF THE VAGINAL-PORTION.

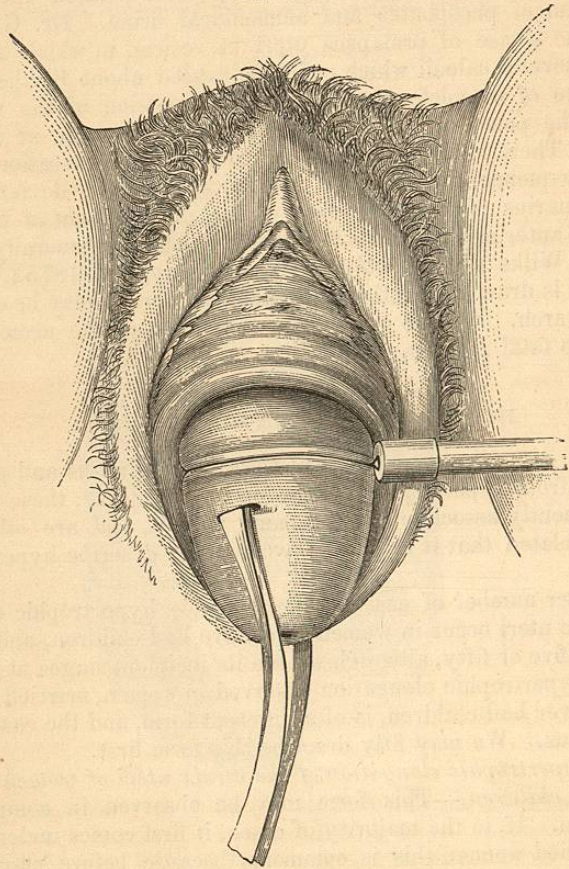
Although, according to my own observation, prolapsus and procidentia are distinct from hypertrophic elongation of the uterus, these conditions are so frequently associated in the same patient, and are otherwise so intimately related that it is most convenient to describe hypertrophy in this place.

The greater number of cases of considerable hypertrophic elongation of the cervix uteri occur in women who have had children, and after the age of forty-five or fifty, although we see its incipient stages at an earlier age. The hypertrophic elongation observed in women, married or single, who have never had children, is of a different form, and the cases are not very numerous. We may fitly describe this form first.

1. *The hypertrophic elongation of the cervix uteri of women who have never borne children.*—This form may be observed in comparatively young women. If, in the majority of cases, it first comes under observation in married women, this is commonly because before marriage the malformation, for such I believe it to be, lies quiescent. When the enlarged structure comes to be exposed to the contingencies of married life, which include possibly a considerable amount of direct violence, and certainly greater liability to congestion, distress arises. It entails all the inconveniences of a foreign body. It may be compared to a polypus in the vagina. It is usually conical in shape, the base starting from the fundus vaginæ, and tapering somewhat towards its lower end, at the point of which is seen the os uteri. This is usually a round opening, that will barely admit the uterine sound. The length of this hypertrophied vagi-

nal-portion varies from an inch to two inches, or even more. The os uteri may come nearly down to the vulva, so that the vaginal canal may be nearly filled with the protuberance. It not uncommonly happens as an aggravation of trouble that the vagina itself is short. Thus the male organ comes into violent contact with it, or after a time it distends the posterior wall of the vagina, and a pouch is formed in the roof behind the cervix uteri. That the excessive length is due to the elongation of the vaginal-portion is proved by the sound and by the touch, which show

Fig. 115.



Representing one form of hypertrophy of the Vaginal-Portion after Complete Cicatrization from Amputation by the Galvanic Cautery (R. B.).

that the body of the uterus occupies its normal position in the pelvis, and is of normal length. Under the irritation to which it is constantly subjected it first becomes the seat of congestion, then of inflammation, perhaps of abrasion or ulceration. Friction against the vagina sets up inflammation in this canal, erosions of its mucous membrane occur; copious muco-purulent leucorrhœa and dysmenorrhœa and dyspareunia

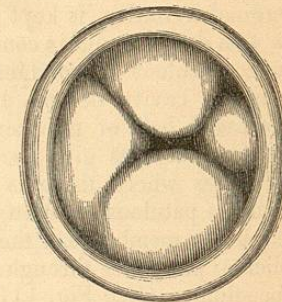
are sure to follow. The following case observed at the London Hospital is typical: W., aged twenty-six, married, never pregnant; is harassed by menorrhagia and profuse leucorrhœa: has complained of prolapsus and procidentia for two years. From girlhood always had discharge and bearing-down. The vaginal-portion is smooth, round; the os externum projects beyond the labia majora; there is no eversion. The elongated vaginal-portion produces all the distress of a foreign body in the vagina; like a polypus it keeps up vaginal irritation, and induces expulsive efforts which increase the procidentia and hypertrophy. Relief ensued on amputation.

The only effectual *treatment* for these cases where the projection of the elongated vaginal-portion is at all considerable is, I believe, amputation. And the best way of amputating is by the galvanic cautery wire. A superfluous structure has to be removed, and amputation is not only the most complete method of accomplishing this, but also the quickest and least distressing.

The *operation* is performed in the following manner. (See Fig. 115.) The patient is placed either in the semi-prone position or in the lithotomy position, and brought under the influence of chloroform. A retractor is inserted into each side of the vulva, whilst a Sims's speculum pulls back the perineum, and exposes the vaginal-portion. This is then seized by a strong vulsellum, and drawn outwards, aided by pressure by an assistant's hand above the pubes. The battery being ready, the wire-loop is then adjusted round the vaginal-portion about half an inch below the line of reflection of the vagina. When the heat is turned on, the wire is gradually screwed up until it has severed the structure included. The severed surface presents a clean, smooth aspect, showing concentric rings, the marks of the varying intensity of the cautery as it made its way. There is rarely much bleeding, and no special means are usually required to arrest it. Any protracted oozing from the surface of the stump or a pumping artery is soon stopped by touching with the porcelain-cone made dull-red by the galvanic current. Further security against bleeding is obtained by allowing full time for the heated wire to make its way through the part, and thus to secure a rather prolonged contact with the surface. A pledget of cotton-wool, soaked in carbolic acid oil, is the only dressing required. The section goes through the expanded portion of the spindle-shaped cavity of the cervix. This is not very liable to close during cicatrization, but to obviate this risk it is desirable to insert an intra-uterine pessary, to be worn for a month. The after-treatment consists in rest for a fortnight during the process of repair by granulation and cicatrization. The state of the new os uteri must be watched for some time afterwards, to be sure there is no undue contraction.

The result in my experience has been satisfactory. The inflammatory

Fig. 116.

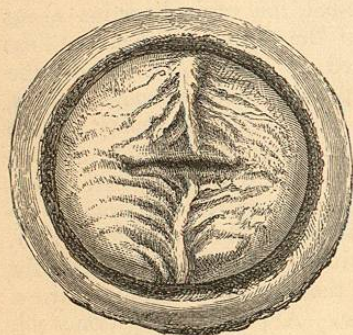


Appearance of the vaginal-portion after complete cicatrization from amputation by the galvanic cautery (R. B.) (Ad nat.)

symptoms have subsided, the dysmenorrhœa and dyspareunia have been materially mitigated.

2. *Other forms of hypertrophy occurring after child-birth.* They may be said to grow out of the state of congestive hyperæmia and subacute inflammation of the cervix, which takes its departure from labor. The change consists in localized proliferation of connective tissue of slow production. The steps are sub-involution, hyperplasia, exudation of serum into connective tissue, proliferation. The course to be pursued to prevent this result, consisting in the cure of the primary stage, has been already described. If this course be not adopted the development of hypertrophy in some form, and to a greater or less degree, is pretty sure to follow. This secondary or acquired hypertrophy is slowly progressive; it may take many months or even years to attain its full extent. During all this time a degree of endometritis and inflammation of the vaginal-portion, with vaginal irritation, is kept up. Dysmenorrhœa frequently attends; more or less dyspareunia is common; there are attacks of metrorrhagia; and muco-purulent leucorrhœa is hardly ever absent. The glands of the cervical cavity become hypertrophied and secrete excessively. The increased bulk of the uterus and the relaxation of the vagina and other pelvic structures give rise to prolapsus, perhaps to retroversion. As in all cases where there is inflammation of the cervix the os externum remains patulous. Often there is a degree of eversion or of rolling-out of the lining membrane of the cervical canal; the lower margin of the palmæ plicatæ protrudes through the os, and comes into sight in the field of the speculum. (See Fig. 117.) The rough granular appearance thus exhibited, especially when the epithelium investment is shed, as it often is, is due to the prominence of the ridges of the arbor vitæ, and to the projection of the bared villi upon them, which in the natural state are levelled down somewhat by their epithelium-covering.

FIG. 117.

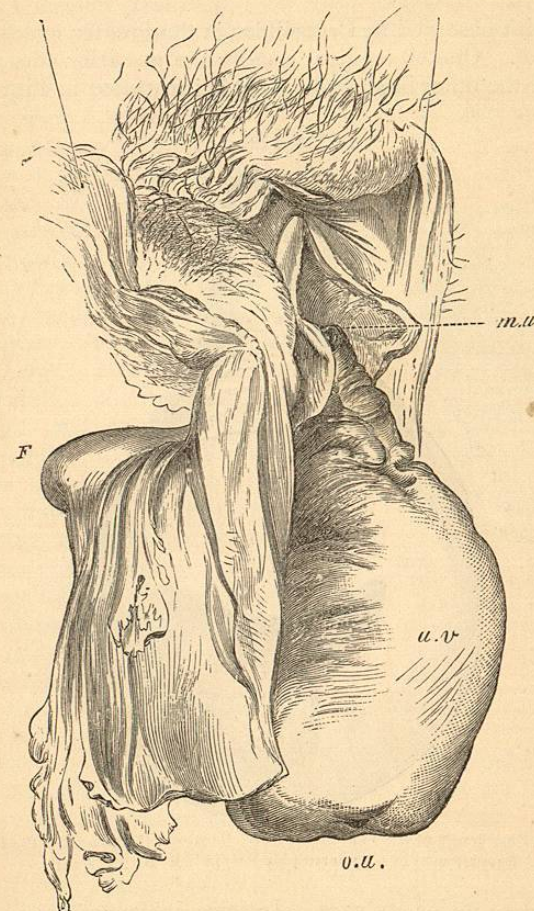


Eversion of the Mucous Membrane of the Cervix Uteri (R. B.).

protrude beyond the vulva. It was noticed by Morgagni, the forefather of so many modern discoverers. In a case he particularly described, he attributed the elongation to prolapsus and hypertrophy of the vagina. Levret, in 1773, also described it in a memoir entitled "*Sur un allongement considérable qui survient quelquefois au col de la matrice.*"

Cloquet correctly represents the condition in a plate,¹ and Cruveilhier has invariably observed it. This elongation chiefly occurs in the point of junction between the body and neck, and is accompanied by a striking contraction or narrowing of the part. In the second part of his work of pathological anatomy, Cruveilhier gives another plate, and additional observations, explanatory of the changes in the relation of parts, occasioned by the inversion of the vagina, or prolapsus of the uterus. It appears from his researches, that sometimes the elongation, and sometimes

FIG. 118.



Prolapsus of Uterus, with Hypertrophic Elongation and Complete Eversion of Vagina (R. B).
m.ur. Meatus urinarius. *F.* Fundus uteri. *u.v.* Uterus covered by inverted vagina. *o.u.* Os uteri.
 (London Hospital, nat. size.)

the depression of the uterus, aids in the greater degree. He met with cases in which the lengthening of the uterus was so considerable, that

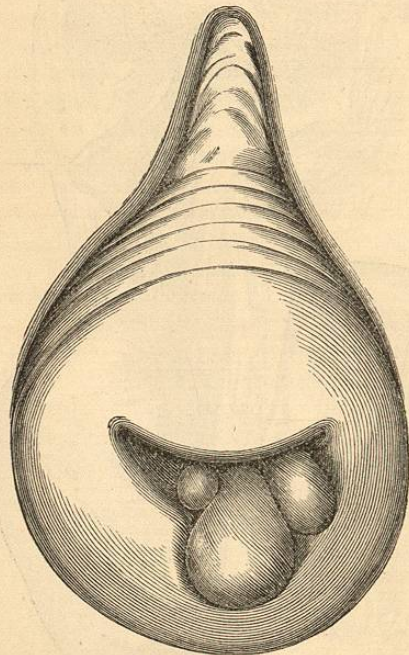
¹ Pathologie Chirurgicale, 1831.

when the part was viewed within the pelvis it seemed as if it occupied its right situation. The coexistence of an inversion or doubling of the vagina, without any displacement of the womb, which has only undergone elongation, seemed to him to prove that in certain cases at least the displacement of the uterus has its beginning in the foregoing change of the vagina. The vagina becomes inverted on itself, like the finger of a glove, by a mechanism precisely like that which takes place in intestinal invaginations. This process has been explained above.

This is illustrated in Fig. 118, in which *F* represents the fundus uteri *in situ*, whilst the mass outside the vulva appears to be the procurrent uterus.

Another point observed by Cruveilhier is the greater or less deformity of the os tinæ. One of its lips, usually the posterior one, is very prominent, whilst the other is effaced. This is illustrated in Fig. 119, taken

FIG. 119.



Hypertrophy with Procidentia of the Vaginal-portion. Greater Enlargement of the Posterior Lip. Development of "Hypertrophic Polypi" (R. B.) (Ad nat.)

by me from a case under my care. In some instances the os is reduced to a very diminutive aperture. This is mostly the case in aged women, in whom atrophy probably preceded the prolapsus.

Virchow, in 1847, described this occurrence as a peculiar form of prolapse, under the name of *prolapsus uteri without descent of the fundus*.

The connection between prolapsus and hypertrophic elongation of the

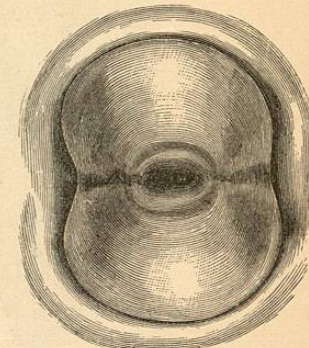
† Verhandlungen der Gesellschaft für Geburtskunde in Berlin, vol. ii. 1847.

cervical portion of the uterus demonstrated by the illustrious men whose names I have quoted, has been since (1859) described with great minuteness by Huguier. He was, however, far too absolute in his statement that prolapsus scarcely ever exists. He distinguishes four varieties. The *first* affects the body of the uterus only, and may cause prolapsus; the *second* invades the os tinæ only, or the sub-vaginal-portion; the *third* invades nearly the whole of the neck, but especially the supra-vaginal-portion. When the first and third coexist, they make the *fourth* variety. To this I may add that hypertrophy of the body is very apt to cause retroversion, or retroflexion, or anteversion.

Stolz, in a memoir published¹ soon after Huguier's account was read to the Academy of Medicine, described it with a completeness of detail which leaves but little to be added.

The mode in which hypertrophic elongation of the cervix uteri occurs is in many cases, I believe, as follows: The first factor is arrested involution of the uterus. This entails endometritis, which in its turn leads to active hyperæmia and interstitial fibrin-effusions. Then a process of gradual continuous eversion, and growth of the cervix takes place thus: the external tissues of the cervical portion are fixed to the bladder and the fundus vaginæ, and being comparatively free from liability to congestion and inflammation, maintain their original condition as to length and *relative* position. The mucous membrane, on the other hand, which lines the cavity of the cervix is extremely vascular, is the primary seat of injury during labor, and of congestion and inflammation; it becomes swollen, with gorged vessels and serum and fibrin poured out into its submucous layers; hence there is increased villous growth, which can only find room by bulging out through the os tinæ.

FIG. 120.



Early Stage of Hypertrophic Elongation of the Cervix Uteri; Eversion of the Lips exaggerated by their being parted by the Bivalve Speculum (R. B.) (Ad nat.)

The peculiar traumatic condition of the vaginal-portion of the cervix caused by labor, combined with its subsequent special exposure to disturbance, is the reason why the cervix is more commonly arrested in its return to the normal condition than the body of the uterus. It has not only to undergo involution, but it has to repair damage. A chronic sub-acute inflammatory process sets in, which entails a perverted or exaggerated nutrition of the part. The watery part of the serum effused into it at the time of the original injury is absorbed; probably the solid constituents remain; fresh material, the result of the hyperæmic state compounded of congestion and inflammation, is added. Hyperplasia results, and is maintained by the irritation of an abraded surface, which, if the term ulceration be objected to, is at any rate distinguished by being bared of epithelium, by angry projecting villi easily bleeding.

¹ Journal hebdomadaire, Juin, 1859.