TREATMENT OF UTERINE PROLAPSE WITH ILLUSTRATIVE CASES.*

By Wilmer Krusen, M.D.,

Instructor in Gynæcology, Jefferson Medical College; Assistant Gynæcologist and Chief of Gynæcological Dispensary, St. Joseph's Hospital.

Downward displacement of the uterus is a condition which so frequently occurs, which produces so much discomfort to the patient, and which so surely tends to become progressively worse if not promptly and properly cared for, that the best method of treatment is always of interest and importance to the gynæcologist.

In this paper the treatment of acute prolapse, a rare occurrence, produced by a sudden fall or violent effort and accompanied with symptoms of shock, intense pelvic pain and possibly hæmorrhage, will not be discussed; but attention will be devoted to the chronic variety which, developing gradually and far more frequently, is of greater importance.

Prolapse of the uterus may be conveniently and practically divided into three different degrees of descent:

1. A slight lowering of the uterus, with the fundus below the pelvic brim, but maintaining its ordinary anterior inclination.

2. The uterus lower, with a change in the axis of the organ and the os appearing at the vulvar orifice.

* Read before the Philadelphia Obstetrical Society, September 2, 1897.

3. Complete prolapse or procidentia, in which the organ projects completely beyond the pudendal orifice.

In order to treat successfully this malposition one must have a thorough comprehension of the etiology in each individual case. By far the most frequent cause of descent of the uterus is the laceration and relaxation of the pelvic floor, impairing the proper anatomical support of the internal organs of generation, and permitting, first, a descent of the vaginal walls, then retro-displacement, with gradual lowering of the uterus. Associated with this relaxed condition we almost invariably find an enlarged, sub-involuted uterus, which, through its disturbed venous circulation and increased weight, possesses an inherent tendency to become prolapsed.

The indirect or predisposing causes which are important factors in inducing and increasing prolapse are the chronic metritis resulting from frequent parturitions; too brief a period of rest in a recumbent position after labor or miscarriage; tight lacing and the weight of heavy clothing improperly suspended from the waist instead of the shoulders, thus increasing the intra-abdominal pressure; the heavy lifting and powerful muscular exertion too frequently necessary in the life of a working woman; chronic constipation and difficult defæcation; uncorrected retro-displacements, and the presence of any intra-abdominal neoplasm acting mechanically, forcing the uterus to a lower level.

Briefly, these causes may be summarized under three heads: 1. Those increasing intra-abdominal pressure. 2. Those increasing the weight of the organ itself. 3. Those decreasing the normal support from below.

Since the days of Hippocrates and Galen and the period when the old Arabian writer, Avenzoar, advised that in obstinate cases of prolapse the woman should be held upon her back and a frog, lizard or mouse be thrown on her feet and legs, as if to frighten the extruding organ to resume its proper position, until the present time, the resources of human ingenuity and of mechanical and surgical inventive genius have been taxed to the utmost to ascertain the surest and safest method of relieving these suffering women. Vigorous and varied as these efforts have been, many admirable and advantageous, many amusing and absurd from the vantage point of to-day, not much progress had been made until the time of Marion Sims. Although our present attainments are far from ideal, yet

the recent advances have been marked. Only fifty years have elapsed since the erudite and scholarly Meigs, in his charming conversations on gynæcology, could only, like Hippocrates, suggest *pessaries* for the relief of prolapse, and had probably never dreamed of the utility of plastic surgery; but now every gynæcologist of note has felt compelled to devise or modify some method for the relief of prolapse, and we are left to select that plan best adapted to the individual patient.

Treatment.—The treatment may be sub-divided into: 1. Prophylactic. 2. Palliative. 3. Surgical or radical.

Prophylactic.—The preventive measures that may be resorted to in order to avoid prolapse are numerous. When the tendency exists the avoidance of constricting clothing, which constantly increases the intra-abdominal pressure, is important. Women with relaxed abdominal walls or who are very obese should wear a well-fitting abdominal supporter, which will relieve the intra-pelvic weight. Chronic constipation so prevalent in women with pelvic disease should be overcome. In cases of chronic inflammation of the uterus and endometrium, decongestant agents, hot douches and boroglyceride tampons should be used, and if necessary there should be a thorough curettement of the uterus. If the laceration of the cervix is extensive, with eversion of the mucous membrane, it should be repaired; and where much hypertrophy exists, an amputation of the cervix is the quickest and best method of reducing the weight of the organ. By the proper protection of the perinæum during labor, many lacerations of the pelvic floor may be avoided; but if they do occur, and they frequently will in spite of well-directed efforts, then prompt repair, even of slight tears, should be made; because the danger of infection, of subinvolution of the vagina and uterus, and later, of descensus of the uterus, may thus be prevented.

In those cases where cystocele and rectocele already exist, or are developing, prompt anterior colporrhaphy and perinæorrhaphy should be performed.

In many cases of retro-position of the uterus, the only reason it does not become prolapsed is because of the firm perimetric adhesions which may in time become so stretched as to permit uterine descent; by the correction of the retro-displacement and the performance of ventro-fixation, the uterus may be maintained in position and the patient spared much subsequent suffering.

A very important point in prophylaxis is more prolonged rest after parturition and abortion; so many patients do not take proper care of themselves after the premature expulsion of the ovum, neglecting either to call a physician or to follow his advice, thus planting the seed for much future misery, and too often rendering necessary a sacrificial operation. Physicians should teach the laity that abortion is far more dangerous than labor at term. Infinite harm is done after parturition or abortion by the too early return of the patient to her daily occupation, involving heavy lifting and violent muscular activity, often unavoidable among the poorer classes where necessity demands they earn their livelihood. Verily, "the destruction of the poor is their poverty," and prolonged misery results from this violation of nature's edicts.

Palliative.—When prolapse is present, the reduction of the uterus is usually easily accomplished, if careful and intelligent taxis is employed. If difficulty is found, due to the herniated mass, after thorough evacuation of the bladder and rectum and after rest in the recumbent position, the reduction may be effected by the employment of hot sitz baths and hot liq. plumbi et opii, followed by the application of an elastic bandage.

Sometimes placing the patient in the genu-pectoral position, thus relieving the intra-abdominal and intra-pelvic pressure, firmly and forcibly pushing the uterus upward in the axis of the inferior strait of the pelvis will be necessary; but in the majority of cases simply placing her in the dorso-sacral position, with gentle pressure, is sufficient to replace the organ.

In all cases the reposition should be followed by treatment tending to relieve the pelvic congestion and to lessen the uterine and vaginal hypertrophy, as the vaginal walls usually have become thickened from the proliferation of the epithelium and hypertrophy of the submucous areolar tissue, the rugæ effaced and the entire character of the mucous membrane changed by its exposure to friction and atmospheric influences. This is best treated by the use of copious hot injections of one-per-cent. solution of creolin, tampons of ten per cent. ichthyol in glycerine, or, if more astringent action is needed, tannin and glycerine. Very often in cases of procidentia irregular ulcerated surfaces are found which should be treated by dusting them thoroughly with powdered acetanilid or tannin and iodoform in equal parts, and by packing the vagina with iodoform

or borated gauze. Packing with gauze has the double function of keeping the uterus in position and promoting the absorption of inflammatory deposits.

The associated cystitis, often resulting from the displacement and imperfect evacuation of the bladder, is best treated by gentle vesicle irrigation, using a solution of acetate of lead (½ gr. to 4 ounces of water), or dilute nitric acid (2 or 3 minims to the ounce; this is especially useful when there is a tendency to phosphatic incrustations); and the internal administration of 10 gr. doses of boric acid three or four times daily. Infrequently primary vesical calculi are formed, due to the precipitation of the ammonio-magnesian phosphates; these calculi should be removed. Lithrotrity is rarely required, because of the capacity and dilatability of the female urethra.

Having reduced the uterus and relieved the complicating conditions, the question arises how shall we maintain it in proper position. In many instances there exist contra-indications to surgical procedure, or if no contra-indications to the mind of the surgeon, the patient herself refuses to submit to the necessary anæsthesia, etc., then our ingenuity must be exercised to find some artificial support for the organ. Temporarily the employment of large tampons, preferably of lamb's wool, dusted with some astringent or antiseptic powder such as iodoform and tannin, alum and bismuth sub-nitrate 1-6, aid in reëstablishing the supporting power and in contracting the distended superficial vessels.

The acute inflammatory symptoms must subside before the introduction of a pessary, an instrument which frequently does more harm than good, and which often distends the vagina and prevents its regaining anything of its former tone and elasticity; it is simply choosing the less of two evils and relieving where we cannot cure.

In this condition in which the uterus, vagina, rectum and bladder are all dislocated, the pessary simply acts as a splint to maintain them as effectually as possible in a normal relationship. The inflated soft rubber ring pessary should be used, as it gives the least discomfort to the patient. It has a wide range of application, and does not irritate the vagina. It must be removed and renewed frequently, as it will absorb secretions and become the source of disagreeable discharges. In those cases in which glass or hard rubber balls are used, where they exert the requisite pressure to sus-

tain the uterus, they almost invariably cause pain and ulceration. In many cases where the ring or disk pessary fails, because of the extensive laceration of the perinæum or relaxation in the muscular planes of the pelvis, a cup pessary with abdominal belt may be worn. The cup, which is perforated to permit the discharges to escape, receives the cervix uteri, and the abdominal belt is useful in sustaining the abdominal wall. The variety which has been successfully used in a number of cases of procidentia is the so-called McIntosh cup pessary with belt. The simplicity of the instrument permits its removal or introduction by the patient with perfect facility. All pessaries should be examined frequently to see that the vagina is not irritated by their presence, and frequent irrigation should be employed.

The use of pelvic massage, as suggested by Thure Brandt, of Stockholm and practiced by Schultze, Profanter and others, has not been successful in my experience; the prolonged and tedious manipulations are tiresome to both patient and physician, and rarely will either possess the inexhaustible patience to employ effectively the kinesitherapeutic method.

All the prosthetic methods of treating uterine prolapse as yet cited, are merely palliative; and it is only by resorting to surgical procedures that we are likely to effect a cure of this condition, since these mechanical devices are usually imperfect and uncomfortable means of support.

Surgical or Radical.—Many of the palliative methods herein detailed must be employed preparatory to plastic operations. The selection of the operation will be influenced by the age and the condition of the patient, and the cause and degree of the descent. Wherever the prolapse is caused or complicated by intra-abdominal tumors, *i. e.*, fibroids, ovarian cysts, or tubal accumulations, as in cases Nos. 8, 10, and 15, these should be removed. Where the increased size of the uterus, due either to sub-involution or hypertrophic elongation or laceration of the cervix, is the main ætiological factor, the reduction of the size of the uterus is effected by a thorough curettement of the organ by a trachelorrhaphy, or by amputation of the cervix.

The operations which have been used in this series of cases have been Emmet's operation of trachelorrhaphy—carrying the incision of the denudation well into the angles of the laceration and thor-

oughly removing the cicatricial tissue and using sutures of silkworm gut or chromicized catgut—and, where there has been much hypertrophy with eversion of the cervical mucous membrane, Schroeder's operation—excising a wedge-shaped piece from the anterior and posterior lip of the cervix, which removes diseased tissue, favors involution, and reduces the weight of the organ.

Where there is marked relaxation of the pelvic floor with cystocele and rectocele, and with the uterus in either the first or the second degree of descent, anterior colporrhaphy and perinæorrhaphy should be performed in addition to the foregoing operation, if they have been indicated.

The two operations for cystocele which have given the best results are those devised by Stoltz and Hegar. Stoltz's operation consists of a circular denudation over the most prominent part of the cystocele, and the insertion of a purse-string suture of strong silk. When the suture is tied, the denuded surface is brought together and closed like a tobacco pouch, forming a puckered cicatrix and giving firm support to the bladder. In Hegar's an elliptical denudation is made, the exuberant tissue of the vagina is excised and a continuous suture of catgut in superimposed layers is employed.

In treating the posterior colpocele and lacerated perinæum no operation surpasses the admirable one devised by Emmet in cases where there is an incomplete tear. The denudation in the lateral vaginal sulci should be carried high up on the posterior vaginal wall in order to diminish the caliber of the distended vagina, and the sutures should dip deeply downward on either side in order to catch the fibres of the pelvic fasciæ and muscles. The *muscles* of the pelvic floor must be thoroughly restored or the patient will not derive benefit from the operation; a thin-skin perinæum which simply closes the vulvar orifice and does not form a buttress for the support of the vaginal wall, will be useless.

In cases where complete lacerations were present, Simpson's flap-splitting operation was used, extreme care being exercised to include the extremity of the lacerated sphincter.

Of the operations which have been more recently introduced, acting on the entirely different principle of supporting the uterus from above, ventro-fixation has been selected in the belief that it gives better results and is more satisfactory than shortening the round ligaments by the operations of Alexander and others.

In performing ventro-fixation the appendages can be thoroughly examined, and any adhesions which exist may be treated; and, under proper aseptic precautions, the risk to the patient is very little greater than in Alexander's operation. In performing hysterorrhaphy two fine buried silk sutures were used, passing them through the peritonæum and a small portion of the muscle of the abdominal wall and including only enough of the uterine tissue to sustain that organ.

The patient will suffer less by the substitution of a practically immovable anteverted organ than she will from the displacement of the uterus, bladder and rectum. In those cases in which hysterorrhaphy has been used the relaxation of the pelvic floor has also received attention, so that less tension would be brought upon the new ligament formed by the suspension operation and subsequent colpocele prevented.

In the treatment of procidentia these combined methods may be employed; or in cases which have resisted all other kinds of treatment, or in which the patient has passed the menopause, or where there is extensive ulceration of the vaginal wall or cervix predisposing to malignant degeneration, vaginal hysterectomy is often indicated and justifiable. The atrophied condition of the tissues in many women after the climacteric renders the firm union requisite in plastic work improbable; but, after the extirpation of the uterus per vaginam, by the removal of the redundant vaginal tissue and consequent narrowing of the vagina sufficient support will be given to the bladder and the rectum, and the patient's symptoms will be entirely relieved.

The operation is comparatively an easy one and the hæmorrhage readily controlled. The modus operandi consists in fixing the uterus firmly with double tenacula or volsella, incising through the vaginal mucous membrane with the thermo-cautery, and dissecting the bladder from the anterior uterine wall with the finger, ligating the broad ligament with arteries on either side, and removing the uterus with its appendages. Though there is greater danger of injury to the bladder and the rectum in this operation than in hysterectomy under ordinary circumstances, if the changed relations are borne in mind this can be avoided. After the removal of the uterus, the vaginal canal should be narrowed and the upper extremity of the vagina be permitted to close without the introduction of sutures.

An ingenious operation which has been devised recently (but not employed in this series) which is restricted to women who have passed the child-bearing period, or in whom the marital function can no longer be performed, consists in encircling the vagina from above downward with silver wire sutures, allowed to remain permanently, which diminishes the caliber of the canal and sustains the uterus, but permits the escape of discharges. This operation, suggested by Freund and practiced by Mundé, has given good results.

The use of the actual cautery, mineral acids, escharotics or forceps to produce sloughing, should be relegated to a deserved oblivion. And we, by the application of correct and up-to-date surgical principles, should endeavor to give that relief to our patient which is our highest aim.

Illustrating Cases.

1. Mrs. G. B., aged forty-four, prolapse, second degree; treatment, trachelorrhaphy (Emmet's), Stoltz's anterior colporrhaphy and Emmet's perinæorrhaphy.

2. Mrs. E. McN., aged forty-two, prolapse, second degree, with large rectocele. Emmet's perinæorrhaphy performed.

3. Mrs. M. M., aged forty-five, prolapse of first degree, with rectocele; patient had also suffered from diabetic pruritus which was treated prior to operation. Emmet's perinæorrhaphy.

4. Mrs. B. D., aged forty-five, prolapse of first degree; dilatation and curettement. Hegar's perinæorrhaphy.

5. Mrs. R., aged thirty-eight, prolapse, first degree; dilatation and curettement, with repair of lacerated cervix and perinæum.

6. Mrs. E. D., aged eighteen, prolapse of first degree, with complete laceration of perinæum and laceration of recto-vaginal septum. Simpson's perinæorrhaphy modified.

7. Mrs. McF., aged twenty-three, endometritis and prolapse of the first degree. Dilatation and curettement, with Hegar's perinæorrhaphy.

8. Mrs. G. H. B., aged twenty-eight; diagnosis, retroversion and descent, with cystic ovary. Hegar's perinæorrhaphy, removal of left ovary and resection of the right ovary, ventro-fixation of uterus.

9. Mrs. C. F., aged twenty-seven; diagnosis, sub-involution of

uterus, laceration of cervix and perinæum, with prolapse of second degree. Dilatation and curettement, trachelorrhaphy, anterior colporrhaphy, Emmet's perinæorrhaphy.

10. Mrs. C. H., aged thirty-five, nullipara, prolapse due to presence of sub-peritoneal fibroid in fundus of uterus. Treatment, abdominal section and the enucleation of fibroid tumor, size of a walnut, from the fundus of the uterus; incision in uterine tissue sutured with fine silk; and ventro-fixation.

11. Mrs. M. K., aged twenty-five, complete laceration of perinæum, with beginning prolapse of uterus, and endometritis. Curettement and Simpson's perinæorrhaphy.

12. Mrs. S., aged forty-two, prolapse of first degree, with laceration of pelvic floor and recto-vaginal fistula. Tait's flap-splitting operation, with freshening of the margins and closing of the fistula.

13. Mrs. G., almost sixty, procidentia; uterus small, atrophied; extensive cystocele and rectocele. Operation, Stoltz's anterior colporrhaphy, Emmett's perinæorrhaphy.

14. Mrs. E. K., aged sixty-eight, XIV-para, procidentia. Operation, vaginal hysterectomy as detailed above.

15. Mrs. A. V., aged twenty-six, procidentia complicated with double pyosalpinx. In this case Hegar's anterior colporrhaphy and perinæorrhaphy were performed, the abdomen opened and double pus tubes with two small abscesses in the fundus of the uterus found. Supra-vaginal hysterectomy was performed, and peritonæum and broad ligament sutured in such a way as to prevent prolapse of the cervix and vaginal walls.

158 N. Twentieth Street Philadelphia.