THE INJURIOUS EFFECTS OF PESSARIES.

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I present a pessary recently removed from a woman seventy-four years of age. It is a hard rubber ring pessary, measuring 27 c. m. in circumference, having a thickness of 3 c. m. and weighing 33.6 grams. The internal orifice, designed to receive the cervix, is 7½ c. m. in circumference. It had been placed in the vagina of this patient some two years ago for the purpose of relieving a prolapsus uteri. The first year it occasioned little, if any, disturbance. The beginning of the second year an extremely offensive leucorrhea was noticed, which excoriated the vagina and vulva. Pelvic and abdominal pains supervened, but the principal subjective symptom was the leucorrhea, which had become of so objectionable a character on account of the very offensive odor that the patient was obliged to practically isolate herself. Upon examination the vagina was found contracted and inflamed. The pessary could be felt in the upper part of the vagina imbedded in the tissues which had almost surrounded it completely. With considerable difficulty it was removed by means of the examining finger, assisted by a large vulcellum forceps. Its removal caused considerable laceration of the vaginal mucous membranes and perineum. Hot bichloride douches were advised, and three weeks later, when the patient was again seen, the lacerations had cicatrized and the leucorrhea, now no longer offensive, had materially diminished in quantity. There was no prolapsus uteri observed.

I have had occasion during the past sixteen years to remove twenty-eight other pessaries which had been retained a variable period—none of them more than one year—and which had become the starting point of inflammatory conditions, fortunately none of them of sufficient severity to threaten life. Many cases are, however, to be found in medical literature illustrating the danger of allowing pessaries to remain in the vagina without care. In American, English, French, German, Russian, Polish and Italian journals there are reported more than 300 cases, many of them collected and classified by Neugebauer.[1]

The vagina was certainly never intended as a receptacle for foreign bodies. The degree of tolerance varies in different cases according to the form, size and material of the pessary, depending also upon its proper application and care. In one case it became

imbedded in the tissues after two months. In other cases it was freely movable after twenty years. Hamilton[2] saw a case of perforation in eight months, whereas in other cases women have worn pessaries many years without serious consequences. In general, however, prolonged use of a pessary occasions unnatural dilatation of the vagina, which in time becomes irritated, inflamed and often excoriated.[3]

The irritation produced by the presence of a foreign body causes an increase and at the same time a rapid change in the vaginal secretion, which soon becomes thickened and then mucopurulent.

Little by little the external genital organs become swollen and the finger when introduced into the vagina enables us to recognize a ridge of mucous membrane, the origin of which is difficult to explain, if we do not know the nature of the accident. The ridge is formed by the swelling of the vaginal mucous membranes in front of the anterior border of the pessary. The bladder, which is full of urine, may project above the pubes, where it may be clearly defined by percussion. The great pressure caused by the pessary is added to that which results from the swelling of the mucous membranes and of the submucous cellular tissue, so that the obstruction of the urethra may gradually become complete. The retention of feces occurring in the same manner is very rarely complete, although one case of its occurrence has been reported by Bayard[4] and many cases of obstruction of the anus are reported where the pessary has been pressed into the rectum.

Often a forgotten pessary, which has been misplaced, causes inflammation of the tissues surrounding the vagina, resulting in parametritis, pelvic abscess, pelvic peritonitis, general peritonitis with ileus, etc., terminating sometimes in sepsis, which may result in cachexia and death. In other cases the normal secretion is increased, profuse and offensive leucorrhea supervenes, ulcers or even fistulae may form in the bladder and rectum. It is especially worthy of remark that a part of the increased secretion may gather on the surface of the passary near the fundus and gradually encrust it with hard calcareous matter, so that in time the opening of the pessary is closed. Ultimately adhesions may be formed in the uterus resulting in the most serious consequences. These effects are unfortunately seldom made known until too late.

The injuries produced by the presence of pessaries in the vagina act in two ways: They occasion in the entire vagina and especially around it an inflammation which terminates in the forma-

tion of fungosities, or which gives rise at one or more points to perforations which are merely the results of gangrene from compression.[5]

Bérard reports the case of a pessary which had remained in the vagina for twenty-five years, finally producing almost complete obliteration.[6] Instead of the normal vagina there remained only a cul-de-sac, which communicated with the remainder of the cavity and the foreign body by means of a small opening situated in the upper part.

Considering the injurious effects of pessaries more in detail, I instance: 36 cases of vesico-vaginal fistula, 21 cases of perforation of the bladder, 1 case of uretero-vaginal fistula, 1 case of perforation of the urethra, 24 cases of perforation of the rectum, 11 cases of perforation of the rectum and bladder, 2 cases of perforation of Douglas' cul-de-sac, 5 cases of forcing of a pessary by pressure into the tissues surrounding the vagina.

In a case reported by Deneux, the perforation of the recto-vaginal septum had been occasioned by the stem of a ball pessary. The crown was found to be retained by vegetations. They formed a mass which was very similar to a cauliflower excrescence and scarcely permitted the body and branches of the pessary to be felt in two places.[7] The mechanism of these perforations from gangrene is simple. The process often lasts many years. The vaginal, urethro-vesical and rectal mucous membranes are continuously compressed for a long time between the foreign body on the one hand and the bony wall of the pelvis on the other. This results in swelling and redness, infiltration and hardening of the tissues where pressure is exerted, terminating in a slow atrophy, necrosis and fistula.

Other accidents occur. I note:

6 cases of pessary forced into the uterus. In one of these cases a ring was introduced by a midwife into the cervix immediately after labor. Again a glass stem four and three-fourths inches long was retained in the vagina twenty-five years and gradually forced its way into the uterus. In another of these cases a cup pessary was forced into the uterus and remained there several weeks.

1 case of proliferating new growth in the rectum in consequence of protracted use of pessary.

1 case of atresia of os and pyometra resulting in death.

1 case of new growths in both walls of vagina.

8 cases of abortion.

2 cases of especially difficult removal during the fourth month of pregnancy.

8 cases of carcinoma, most probably occasioned by pessary.

6 cases erroneously diagnosed as carcinoma owing to the clinical picture pre-

sented on account of imbedded pessary, attended with ulceration, hemorrhage, offensive odor and pain.

7 cases of strangulation of vaginalis in pessary, in one case during pregnancy.

1 case where the entire uterus slipped through the lumen of a pessary during a violent fit of coughing and was so strangulated that the pessary had to be cut into pieces in order to extricate the uterus.

1 case where the infection from an uleration due to a pessary occasioned a kind of typhus. Patient recovered on removal of the pessary.

1 case where the patient suffered terrible pains during nine months in a partly reclining and partly sitting position.

1 case of chronic peritonitis attended with constant abdominal pains and vomiting.

Many cases of imbedded pessary have been observed. The pessary remains movable in the vagina but will not allow withdrawal. This has been especially observed in the case of egg and ball pessaries but also in the case of round rings and Hodge pessaries. The cause is undoubtedly partly due to senile shrinkage of the vaginal walls and partly to the contraction of cicatrices. The cicatrices left by ulcers, etc., often cause stenosis of the rectum and finally of the vagina. In addition to the injurious effects already enumerated there are others, pressure on a sunken or inflamed ovary, tumor, or tube, cystitis with strangury, tenesmus, etc., caused by large irritating pessaries, exacerbations of old parametritic and perimetritic processes, etc.

Eight cases of death due to pessaries are recorded as follows:

Death from peritonitis following incision of the recto-vaginal wall for the extraction of an imbedded pessary[8].

Death from exhaustion after the extraction of an incarcerated pessary[9].

Death from sepsis caused by ulceration and perforation of rectum, after an operation for the removal of the pessary had been refused[10].

Death from exacerbation of an old pelvic peritonitis[11].

Death in two cases from uremia following the extraction of a pessary in cases of purulent septic parametritis[12 13].

Death from pyometra in consequence of atresia of os uteri caused by a pessary[14].

Death from ulcerative parametritis and exhaustion[15].

The social position of the victims of retained pessaries varied from the highest to the lowest. Their ages, at the time of extraction of the pessary, were from ninety to nineteen years. The ages in many of the recorded cases are not given. One woman was ninety, eighteen were between seventy and eighty, nineteen were between sixty and seventy, twenty-one between fifty and sixty years old. The length of time the pessary was retained varies considerably. In the case of the woman ninety years of age, the pessary has been retained forty-five years.[25] In two instances it remained

forty years;[26] four times it was retained thirty-five years, once thirty-three years, three times thirty years, twelve times from twenty to twenty-seven years, and so on; the shortest time it caused serious inconvenience was only a few weeks.

The form of pessary differed greatly. In many cases it is not mentioned. The fashion in pessaries has changed more frequently than the seasons. Forty-one times some form of stem pessary is reported as the cause of serious injury. Almost every variety of pessary has been responsible for some traumatism. The injury has, however, been caused more often from want of care, forgetfulness, disproportionate size and improper adjustment than from any special form or variety.

The material of which the pessary is made has apparently had no etiological relation to the nature or extent of the injury. As a matter of interest it may be stated that the materials reported are cotton, lint, linen, porcelain, oakum, wax, gum elastic, whalebone, wire of iron, gold or silver, nickel, tin, aluminum, copper, lead, hard rubber, glass, wood, cork and celluloid.

The injurious effects of pessaries are not alone occasioned by their presence. Various accidents have occurred in the attempts that have been made at their removal. The pessaries themselves have sometimes become corroded by the altered vaginal secretion so that new mechanical dangers have been added to those due to the prolonged presence of a foreign body. In a case reported by Morand the pessary was found perforated in several places apparently from the effects of the acid matters which were secreted by the vagina. These irregular openings were filled with portions of the vaginal mucous membrane, which had become elongated and swollen in the thickness of the pessary and had formed hooded excrescences retaining putrid matter in the cavity of the pessary.[16] Occasionally more than ordinary difficulty is experienced in the removal of pessaries from the vagina and numberless accidents occur. Mayer in extracting a bullet-shaped pessary adhering closely to the vagina bored into it with a wooden screw and tore away large pieces of the vagina.[17]

In cases of imbedded pessaries there is often exceptional difficulty. In one case systematic dilatation of the vagina by means of sponge tents was necessary for several days in order to ascertain the presence of the pessary. Great difficulty was experienced in its extraction.[18] In five cases there was laceration and tearing of the vaginal wall. In removing a lindenwood pessary a portion of the anterior vaginal wall was lacerated so that

a piece of mucous membrane two inches in length was partly torn off and fell away on the sixth day from gangrene.[19] On another occasion the posterior vaginal wall was perforated into the peritoneal cavity.[20]

Janin found in one case the upper part of a pessary bent backward and more than half the staff penetrating the rectum, in which it could be distinctly felt. The feces escaped by the vagina. Incisions were made with a bistoury in order to disengage the pessary from the fragments which held it. The feces gradually resumed their ordinary course and at the end of a month only a small fistula remained. The half of the staff which was in the rectum was covered with irregularities of a black color, very fetid and covered with shining crystals. The portion lodged in a fold of the vagina was covered with a stony incrustation which had at its lower part a slightly convex facet an inch in length.[21]

The treatment of neglected pessaries consists in their removal from the vagina or the neighboring viscera or tissues in which they may have become imbedded or displaced. Fortunately in most cases this is a comparatively easy matter. The finger often suffices to dislodge and remove the pessary, which may conveniently be steadied, if necessary, by a bullet or vulcellum forceps. Care must be taken to avoid undue laceration of the vaginal tissues. In some instances it will be advisable to separate the adhesions that have formed about the pessary, thoroughly disinfect the parts by antiseptic douches and after an interval of several days when the pessary has become detached and freely movable, proceed to its removal. Occasionally a pessary will have to be extracted by fragmentation. Holmes speaks of a case where a metallic pessary was so firmly imbedded that it became necessary to incise the perineum in order to facilitate its extraction.[22] In a similar case Lisfranc made a posterior vulval incision.

The adhesions present will often necessitate the division of the pessary by means of bone forceps before its removal becomes possible. Occasionally a metacarpal saw may be used with advantage. The pessary will perhaps have to be held by a forceps and the vagina widely dilated by some form of Sims' specula. Chrobak and v. Ott in extracting ring pessaries made used of the galvanocaustic platinum wire snare, which Neugebauer regards as an excellent way, safer than any other.[23] In other cases incisions of the soft parts of the patient will be necessary. The injuries inflicted will, of course, be as limited as possible and will be antiseptically repaired as far as practicable, but it must be remembered that the

history of all cases shows the necessity of removing the pessary, if the life of the patient is to be saved.

A pessary lying in the vagina has been observed to be held firmly by a cystocele. In two cases where the extremely inverted anterior vaginal wall presented itself in the rima vulvae a rubber ball pessary was noticed in the upper portion of the vagina. In cases of this character and in cases of perforation of the rectum and especially the subvaginal cellular tissue and peritoneal cavity, the greatest care must be exercised. By carefully reducing by means of retractors the cystocele or rectocele present, the pessary can usually be reached and systematic measures instituted for its removal.

In case abscesses have formed in the tissues surrounding the vagina, the treatment of the impacted pessary will consist not only of its removal but in the treatment of the dangerous concomitants. I cannot in this connection discuss the subject of pelvic suppuration. I must, however, be allowed to insist upon the importance of free and absolute drainage secured at any cost by any means, even by the removal of the uterus and adnexa in case other means are inefficient.

The consideration of my abstract of more than 300 cases of the injurious effects of pessaries suggests naturally the inquiry as to the advisability of the use of pessaries in general. Personally I can make answer very readily. My experience with pessaries during the past ten years has consisted solely in their removal. Some form of the Alexander operation, the operations of colporrhaphy, perineorrhaphy, trachelorrhaphy, hysterorrhaphy and in a few cases hysterectomy, singly or combined, according to the requirements of each individual case, have sufficed in my experience and that of my assistants to control all displacements of the uterus, as well as all inconveniences occasioned by them.

I do not, however, presume dogmatically to assert that pessaries should be banished as a relic of barbarism. I cannot agree with Fritsch that the sale of pessaries should be restricted like that of poisons. I consider it unwise to discard the use of pessaries altogether. There are many cases where the judicious use of a pessary makes the woman feel "like newborn" as Neugebauer graphically expresses it. Moreover, every physician is not accustomed to do plastic gynecological operations, nor can the patient in every case submit to operative procedures. The physician who inserts a pessary should, however, realize its powers for evil as well as for good. He should insist on frequent examination; he should

be on the alert for the possibilities; he should remember that deviations of the uterus have not the importance that was attached to them twenty years ago; he should remember that the inflammatory conditions of the tubes and ovaries frequently cause a prolapse of these organs into Douglas' cul-de-sac, and that eminent gynecologists to-day do not hesitate to assert that cases of so-called retroflexions of the uterus are all of them really tubes or ovaries often bound down by adhesions behind the uterus. These facts should be remembered by every practitioner and he should further understand that a pessary, if suitably applied, causes relief and not distress. In case the patient complains of sensations of pressure or of other inconveniences, the possibility of incorrect adjustment or improper application should not be forgotten. Above all things the patient should be instructed in the care of the pessary.

It should be remembered that she carries in her vagina a foreign body which requires attention. At suitable intervals it should be removed, cleansed and disinfected, and the opportunity should be utilized to ascertain the benefits or injuries occasioned by its use. The vagina should be regularly and systematically douched, not alone to disinfect the parts, but also to remove the excess of secretion resulting from the presence of the pessary. These measures are easily carried out in private practice. In hospital and especially in dispensary practice, they are impracticable, as a rule, and for this reason, if for no other, the pessary should, in my opinion, be rarely advised in such cases.

[1] Franz Ludwig Neugebauer, Archiv fuer Gynekologie, Heft iii., Band xliii., p. 373.

[2] Hamilton, Practical observations on various subjects of midwifery. Part I., Edinburgh, 1886.

[3] Carl Mayer, "Beitrag zur Kenntniss und Behandlung des Prolapsus uteri et vagine." Verhandlungen der Gesellschaft fuer Geburtshuelfe in Berlin, 1846, iii., Jahrgang, S., 123, 137. Berlin, 1848.

[4] Bayard, v., Poulet's Treatise on Foreign Bodies, etc., p. 190.

[5] Poulet, A Treatise on Foreign Bodies in Surgical Practice, p. 194.

[6] Bérard, v., Poulet, loc. cit., p 194.

[7] Deneux, Journ. gén. de méd., 1822, T., lxxviii., p. 197.

[8] Lisfranc, Maladies de l'utérus, Legons de Lisfranc par Pauly, p. 528, Paris, 1836.

[9] Henkel, Neue medicinische und chirurgische Anmerkungen, Berlin, 1772.

[10] Maercker, Hufeland's Journal der praktischen Heilkunde, Bd., xvi., Hft. 4., Berlin, 1803.

[11] Bernutz and Goupil, Clinique méd. sur les maladies des femmes, T. ii., p. 721, Paris, 1862.

[13] Kelly, Med, News, p. 430, Philadelphia, 1884.

[14] Gillette, Bull. de la Soc. anatom. de Paris, 1884

[15] Robin, Gaz. méd. de Paris, 1885, p. 174.

[16] Jawdynski, v., Neugebauer loc. cit., p. 410.

[17] Morand, Anc. Acad. de Chirurgie 1878, p. 421, obs. xi.

[18] August Mayer, Monatsschrift fuer Geburtsh. und Frauenkrankheiten, 1858, Bd. xii., S. 1–42.

[19] Clay, Med. Times, 1844, No. 231. (Cf. Neue Zeitschrift fuer Geburtskunde Bd. xxii., S. 301, Berlin, 1847.)

[20] Rainer, Gemeinsame deutsche Zeitschrift fuer Geb., 1828., Bd. ii. S., 127.

[21] Zweifel, Vorlesungen ueber klinische Gynekologie, Berlin, 1892, 14. Vorlesung. S., 390.

[22] Janin, Journ, gén. de. Méd., 1822., T. lxxviii., p. 200.

[23] Holmes, London Med. Gazette, 1854.

[24] Chrobak and v. Ott., Die Untersuchung der weiblichen Genitalien, S., 213, Stuttgart, 1870.

[25] Neugebauer, loc. cit., p. 432.

[26] Bjoerkmann, Inaugural Dissertations, S. ii. of Josef Diefenbach.

[27] Rousset, De l'enfantement Césarien, p. 176, 1581.

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