

upon the ability to perform its motor work. The wearer walks with an assuring tread. He stamps fearlessly. He alights from a vehicle upon the ground with a reckless thud. He is surprised to observe such a jolt seems to be better sustained by the brief member than by the sound one.

Why is this? It seems to me the explanation is to be found in the fact of dissolved continuity between the long bones and the ground. Almost every one has experienced the more or less profound concussion of the physical system when the foot strikes the ground stiff-legged, from a longer reach in the step than was expected.

The vertical bones of the inferior extremities, being posed end to end, one above the other, transmit the resulting impact from the base on to the encephalon.

As the factitious leg is attached to the stump through the outer surface of the elastic integument, the impact of the concussion is comparatively lost and rendered harmless.

It is therefore quite evident, if the stump end were to rest on a floor or partition in the leg, the concussive jar must be likewise felt as in the normal extremity.

Recently a prominent surgeon and professor in San Francisco consulted a man wearing an artificial leg with the inquiry, "How much of a stump should be left in view of adapting thereto a mechanic's substitute?" What answer he got we only know by the amount of human being left after the amputation. A diseased foot and ankle were to be removed: the result, as now seen, is a pouchy and puckered stump, six inches long below the patella, to the detriment of the victim. There is reason to believe the entire lower extremity between the knee and ankle could have been saved, and thus lessened the resulting disability. Such random and unscientific surgery is reprehensible. It is on a level with stupid meat-chopping. It sinks the surgical art below the grade of the nail-driving artisan. The longer the stump the better and the more power of command, ease, and facility of movement does the patient have over the supplemental member.

An essay devoted to the lame theme of artificial limbs may not be strictly medical, yet it is not foreign thereto. The article in the *Philadelphia Quarterly* from the pen of the New York surgeon mentioned in the outset of this paper, betraying as it did that surgeon's erroneous views on the vicarious-leg side of the subject, gave evidence that artificial legs and the medical and surgical arts were kindred topics. It indicated a prevailing lack of knowledge in that direction by the faculty. It seemed to justify, if it did not call for, light and discussion thereon.

However, it is hoped this narrative of a few limping facts as they run, like views a-foot, may not prove a bootless task. Its brevity makes it but little more than a foot-note.

—The "local" column of the country paper sometimes puts things a little awkwardly, as thus: "—, M.D., is endeavoring to add to his professional skill at a hospital in New York City."

## FIVE CONSECUTIVE SUCCESSFUL CASES OF VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE.<sup>1</sup>

BY DR. E. W. CUSHING.

I WILL not enter upon the subject of diagnosis, nor relate the histories of the cases at this time, but I wish to call the attention of the society to the facility with which the whole of the disease can be removed by hysterectomy, in suitable cases, and to point out the limits within which that operation is applicable, as I frequently receive letters requesting information on this subject, or see patients who have unnecessarily travelled long distances to seek for surgical aid, when the disease is too far advanced for any operation to afford more than temporary relief, although an earlier diagnosis, and a greater faith on the part of the family physician in the efficacy of operative treatment, would certainly have led them to seek aid at a time when an operation would have saved many of them.

These specimens of cancerous uteri removed by vaginal hysterectomy show very clearly how unsafe it is to trust merely to the ordinary operation of an amputation of the cervix, even if made through apparently healthy tissues. Besides the case in which the disease originated in the fundus, in one of the four other cases the cancerous degeneration had spread upwards along the mucous membrane, in a way which could not have been detected prior to the removal of the whole organ; in the other cases a "high" amputation of the cervix would have been necessary in order to have removed all the tissue which was clearly diseased. Now a high amputation of the cervix is both difficult and dangerous, fully as difficult and as dangerous as is a vaginal hysterectomy in cases where the corpus is not enlarged, and evidently useless where the latter is involved. In a high amputation the vagina must be separated from the cervix, all around, the bladder must be dissected away from the anterior part of the collum, and the latter amputated at the level of the internal os. The great danger here is hæmorrhage, and so skilful an operator as Schröder lost something over 7 per cent. of his cases of high amputation, although his later results were much better than his earlier ones. The modification which Prof. W. H. Baker has introduced into the operation of high amputation for cancer, consisting of the removal of a conical piece of the corpus, extending nearly to the fundus, followed by a thorough use of the actual cautery, lessens considerably the danger of hæmorrhage, and increases largely the probability that all the diseased tissue is destroyed. Unfortunately, however, it is very difficult for those who are less skilful than the author of this method to be sure just how far the action of the cautery extends, as the wall of the corpus is of variable thickness, not easily determined.

Whenever, however, the dissection and separation of the cervix, which is a necessary part of these operations, has been performed, it is easy to clamp the broad ligaments, and thus, by removing the whole of the diseased organ and by securing the whole vascular supply, the best chance for permanent immunity from relapse, as well as the surest

<sup>1</sup> Read before the Surgical Section of the Massachusetts Medical Society, March 6, 1889.

guarantee against hemorrhage, is given, without material increase of the immediate danger.

In general, it may be said that vaginal hysterectomy can be performed in all cases in which either the high amputation of the cervix, or Baker's operation, is indicated, and it may also be performed in cases where, by reason of implication of the corpus, the latter operations are useless. The limitations are that the uterus must be movable, the vagina and the region of the base of the bladder free from disease, and the broad ligaments not infiltrated, nor the glands infected. If the corpus is enlarged, there must be a sufficient width of the vagina to permit of its extraction. The patient must also not be so anæmic and reduced by hemorrhages as to be unable to endure the shock of the operation.

I have had five cases of vaginal hysterectomy, the first one for adenoma, which was reported to the Massachusetts Medical Society last June, and four subsequently for carcinoma originating in the cervix. All recovered from the operation without accident, and in fact by a remarkably painless and comfortable convalescence; none of them have had any relapse as yet, although of course the time is as yet too short to conclude that the disease will not recur.

In the first case the operation was commenced after the German method, and the broad ligaments were tied off with silk; as they did not seem quite secure, however, clamps were also applied, after the method which Dr. Doleris strongly recommended to me. The clamps gave rise to so little trouble, and so evidently controlled the vessels securely and favored drainage, that in all the subsequent operations clamps were employed; in the last two cases no ligatures or stitches whatever were employed. The clamps used were the ordinary Spencer Wells' pattern, such as are used in ovariectomy.

Instead of clamping the ligaments in one mass, as is done by Doleris, Greig Smith, and others, I was led from the necessities of the first cases, in which it was impossible to reach the upper border of the broad ligaments, to apply the clamps to the latter in sections. After thorough cleansing of the vagina, and sometimes after preliminary curetting and cautery of the decomposed tissues, the operation is performed under continuous sublimate irrigation, as follows:—

The uterus being well drawn downward and forward an incision is made in healthy tissue in the posterior vault of the vagina, about two inches long and curving around the cervix. With the fingers and blunt instruments an opening is then made to the peritoneum; this is incised and the finger introduced into the pouch of Douglas, as recommended by Martin, in order to examine the broad ligaments and to find out whether there is any foci of infection in the latter which would contraindicate further operation. The broad ligaments being found free, the incision is carried around the whole cervix, cutting merely the mucous membrane.

Next the bladder is dissected off from the uterus, using chiefly the fingers, until the finger in the pouch of Douglas can be made to feel the one in front, the thin part of the middle portion of the right broad ligament only intervening. Through this thin tissue the lower finger is gradually thrust, thus isolating the whole fleshy portion of the liga-

ment, including the uterine artery. This is then firmly compressed in a stout Wells' clamp and severed from the uterus, thus facilitating the repetition of the same performance on the left side.

The uterus can now be pulled down much farther than before, but is still held by some parts of the ligaments which have not been divided. To whatever is felt to retain the uterus on either side, a light pair of compression forceps is then applied, the clamped tissues are severed, and the corpus is delivered, either by simple traction, or by prying it out with hooks, after Martin's method. Attached to the cornua are the tubes, and beyond these the ovaries, which can be conveniently drawn down and the pedicle secured with clamps, or sewed off with the cobbler's stitch with catgut, as was done in three of the above cases.

No attempt at union of the wound in the roof of the vagina is necessary or desirable; the intestines do not prolapse, being retained by the omentum, and the vagina being occupied by the clamps. Iodoform gauze was used in two cases, but it only complicated the recovery, retarded the discharge of the secretions, and impeded the removal of the clamps. Of the latter the smaller pairs were removed after forty-eight hours and the larger pairs on the subsequent day.

As stated above, the convalescence after vaginal hysterectomy is remarkably easy and painless; the intestines, which are not at all disturbed by the operation, quickly shut off the region of the wound by an adhesive inflammation. The opening in the vault of the vagina contracts and heals without difficulty, leaving a smooth scar. The women rapidly recover their strength and return to their homes, rejoicing to be saved, even if only for a time. The happiness of a woman thus suddenly freed from the disgusting features of such a foul disease, restored to her home and her family, to hope and to usefulness, is something indescribable, and although it is known that many cases must suffer relapse, yet as a rule, the recurrence is internal and free from the peculiarly distressing features which make the sufferers from cancers of the uterus so profoundly unhappy and so loathsome to themselves and to all who are about them.

It is difficult to see why any one should oppose such an operation, and I think that the time is past when any defence of vaginal hysterectomy for cancer is necessary. The disease is originally local, the relapses are caused by infection of the neighboring parts; the principal factor in causing such infection is delay, and delay is most unjustifiable. The women thus afflicted are worse than dead already, they have everything to gain and nothing to lose, they are conquered by an enemy from which there is no other escape; and even were the operation a desperate one, which it is not, of them it might be truly said:—

*"Una salus victis nullam sperare salutem."*

—Dr. C. E. Simmons, who is trying to secure \$143,350 from the executors for medical advice to the late Samuel J. Tilden, figures up the sum by charging \$50 a visit for 2,200 visits, and \$50 a day for holding himself in readiness to devote his exclusive attention to Mr. Tilden.