Addresses.

SUPRAPUBIC HYSTERECTOMY:

THE ADDRESS OF THE CHAIRMAN OF THE SECTION OF OBSTETRICS AND DISEASES OF WOMEN, OF THE AMERICAN MEDICAL ASSOCIATION, SAN FRANCISCO, JUNE 5, 1894.

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MR. CHAIRMAN, LADIES AND GENTLEMEN:—It seems best on this occasion to turn aside from the usual custom of reporting progress in the department of obstetrics and gynecology, a subject which has been so often and ably presented by my predecessors, and call your attention to the present status of suprapubic hysterectomy as viewed from the standpoint of personal observation and clinical research, with the hope that I may contribute in some small measure to the profitable discussion which I am quite sure will follow the reading of the valuable papers on your programme.

It is not my intention to report a series of operations made for the removal of symmetrically formed pear-shaped tumors, with well-defined broad ligaments; with uterine arteries easily accessible and seen pulsating in their anxiety to be ligated; tumor ligaments and arteries dealt with by some definite method; each operation made in exactly so many minutes, and all the patients making uneventful recoveries. The literature of the subject is already cursed with such productions. Therefore I would rather suggest such means and methods as experience has taught me will furnish the best possible results in dealing with tumors by no means symmetrically formed; with broad ligaments displaced and disorganized by nodular masses interfering with the ligation of arteries and the easy formation of pedicles.

Despite the efforts of some to name a distinct method of operating because a flap is made here, or a ligature placed there, the problems of suprapubic hysterectomy are rapidly nearing their solution. Those engaged in the work are divided into two classes: first, those who have been and are yet satisfied with forming a pedicle and fixing the same in the abdominal wound; second, those who were not satisfied that this method was the best that could be devised, and who have been earnestly endeavoring to reach some method which shall disregard morphology of tumor, of broad ligaments and the location of uterine arteries.

On February 3, 1887, knowing full well that abdominal fixation of the pedicle in suprapubic hysterectomy had at that time given the lowest rate of mortality, I decided not to operate in that way, but planned and executed an operation which in every essential feature was an extirpation of almost the entire cervix. A large cautery passed three times down through the cervix in reality destroyed a large portion of what little cervix I had left. A rubber drainage-tube was inserted for vaginal drainage. In a recent discussion in the *New York Journal of Obstetrics and Gynecology*, the operations by Stimson, Krug, Baer and myself are spoken of as if they were all operations of total ablation of the uterus. If these operations are to be considered, then the operation by Stimson in Novem-

ber, 1888, was antedated by my determination to secure something better than the abdominal fixation of the pedicle on February 3, 1887.

It is not my purpose to occupy time in discussing questions of priority in making an operation, although the operation, including the use of my hysterectomy staff, as I demonstrated it at the International Medical Congress in Berlin, has since been made many times by Krobak, of Vienna, and numerous American operators, with great satisfaction.

I concede the fact that where a given fibroid tumor has no nodular masses in the region where we would form a pedicle or imbedded in the broad ligaments, and where the abdomen is not exceedingly fat, the abdominal fixation has given results, in the hands of expert operators, in a very high degree satisfactory. So far as I have been enabled to read the writings of its warmest advocates, none of them have mentioned the very strongest point in its favor; namely, that in this method we have practically one wound; whereas, in the total or partial extirpation method we have two wounds, the one in the abdomen, the other in the pelvis, the latter extending through connective-tissue, rich in lymphatics, down to the vagina—an incubator for many varieties of bacteria which cannot always be sterilized and maintained aseptic during an operation.

I became well convinced a number of years ago that the use of the clamp of Keith or the serre-neud of Kœberle for controlling hæmorrhage from the neck of the uterus was based upon the idea that the spiral or curling branches given off from the uterine arteries really penetrated the tissues of the uterus, including its cervix. Some seven text-books on anatomy which I have examined state that these branches penetrate the uterus. I have a number of times, with fingers on the broad ligaments and their contained vessels, cut directly through, seizing the spurting vessel and securing it later. I have also peeled off the uterine arteries from the sides of the uterus and then cut off the cervix with little or no hæmorrhage.

These studies were for the purpose of reducing the number of ligatures,¹ long or short, to become incapsulated or slough off, through the vagina, and also to economize the time for their thorough application.

Here is a nodular mass fed and nourished by a capsule—a capsule containing the venous and arterial papillaries. It is well known to every gynecic surgeon that these nodules can be peeled out of the capsule without ligating a single artery. What I have stated regarding the nourishment of this nodule by its network of capillaries and not by the penetration of the arteries, for surgical purposes, holds true with reference to a uterus disorganized by a fibroid tumor or tumors no matter how large or how small; not only of the fibroid uterus, but the normal uterus as well; not only of the uterus but its entire cervix down to the external os.

I here present a specimen (see p. 554); and to my mind it marks a new era in the removal of fibroid tumors by hysterectomy, for the reason that the uterine arteries were not ligated at all. I went down between the uterine arteries and the uterus. The uterine arteries were absolutely left within the pelvis of the woman, not a single ligature being used except those

¹ A ligature to secure the uterine arteries will often secure a certain amount of muscular and connective tissue, and is one of the possible sources of infection of the wound; hence the importance of having as few ligatures constricting tissue in this work as possible.

which tied off the ovarian arteries and a small section of the upper portion of the broad ligaments.²

Then in addition to solving the problem as to what to do with the pedicle, by deciding not to have any, we also solve the problem as to what to do with the broad ligaments and especially their contained uterine arteries by simply leaving them in the pelvis of the patient.

In this case I simply controlled the circulation in the ovarian artery by ligating the upper portion of the broad ligaments with a strong ligature, then, cutting the broad ligaments above the ligature, began with this serrated gouge (see cut) to peel down the broad ligaments, keeping the gouge close to the tumor, being especially careful in the interspaces between the nodules not to puncture or tear the uterine artery, or any of its branches. From time to time nicking the edges of the peritoneum with these button-pointed scissors, with the serrated cutting edge, I pushed it forward under the peritoneum anteriorly and posteriorly so as to make anterior and posterior flaps. Then pushing with the serrated gouge, I carefully worked around the tumor until I had reached the uterine cervix, and then proceeded with still greater caution not to cut the cer-

vix nor its capsule, but to push it down, as I now slip my cuff toward my elbow with the fingers of my right hand. The enucleation of the lower portion of the uterus, including its cervix, reminds me of Professor Sayre's admonition when removing the head of the femur for hip-joint disease. He says, "I take this oyster knife and work my way past the trochanters major and minor, then make sure to get beneath the periosteum close to the bone." "Then," he used to say, "d—n the anatomy, stick close to the bone," and proceeded in peeling off the periosteum until he had the entire head of the femur out of the acetabulum.

As I reached this lower part of the cervix, my hysterectomy staff was passed up the vagina. I then removed the entire cervix, cutting a little opening on to the staff, slipping a strip of gauze in the fenestra of the staff. When the staff was withdrawn, this was brought down in the vagina, the upper portion of the gauze being packed into the pocket from which the cervix had been enucleated. The flaps which I had dissected off from the tumor and cervix were brought together by buried suture over the ligatures which had included the ovarian arteries, so that their raw ends also came into the wound. Several rows of buried suture were used, so that all raw edges made by peeling out the cervix were deeply buried so as to prevent leaking into the peritoneal cavity, the gauze being dragged down into the vagina a little each day, facilitating perfect drainage in that direction. This operation is the realization of the ideal. Heretofore, all of us had simply been idealizing the real. In a lecture delivered in July, 1893, I closed with a series of conclusions. From them I quote the third, to wit: "Where the neck of the uterus remains small, abdomen not too fat after the ovaries and tubes have been tied off, the pedicle may be fastened in the lower angle of the wound and give satisfactory results." To this conclusion stated at this time I have this to add: Where such anatomical conditions exist, enucleation of the cervix can be done in less time than the manufacturing of a pedicle, the adjustment of the serre-neud and elastic ligature. Furthermore, abdominal fixation of the pedicle cannot be accomplished, in all cases.

It is to the class of cases where no pedicle can be formed to fix in the abdominal wound that I would invite the best-directed efforts on the part of those who have a heartfelt interest in this class of suffering women.

One's per cent. of recoveries would undoubtedly be much better if, after making a careful examination which discloses a tumor deeply imbedded in the pelvis, we would discourage operative procedure; but in my first 100 hysterectomies I found a number of cases were gangrenous tumors and tumors containing gangrenous nodules, causing slow death in some cases and rapid death in others from septicæmia. Within the last six months I have operated on seven women who had either gangrenous fibroid tumors or fibroid tumors with gangrenous nodules. In five of the cases the nodular masses were deeply imbedded in the pelvis, and two of the cases were operated on within one week. In each case a nodule as large as a cocoanut was completely imbedded in the broad ligaments, having been developed from low down on the side of the uterus, and in both cases the nodular masses were in an advanced state of gangrene, they having caused temperature ranging from 100° to 103°. In two other cases the subserous tumors had become gangrenous

² Sauter, of Constantine, Germany, three-quarters of a century ago removed the uterus by the vagina without clamp or ligature (See article by Dr. Guido Bell, *Indiana Medical Journal*, February, 1894). Further, the enucleation of the cervix by the vagina was made by Langbeck in 1813, by Recamier in 1829, and by Malgaigne at a later date (See article by Dr. Robert Rayborn).

from small twisted pedicles. In each case rapid and well-pronounced septicæmia threatened the life of the patient. Surely, the technique of suprapubic hysterectomy is not complete until guided by sound surgical principles. We have methods and means for this class of cases. I am pleased with the rapidity with which we can ligate the upper portion of the broad ligaments, cut the same loose from the tumor, peeling the peritoneal covering off from the tissue, leaving a little subserous tissue beneath it, enucleating nodular masses, and directly find ourselves down on the uterine cervix close to the external os, with only an occasional bleeding from some enlarged arterial twig.

The most serious question in my mind in these cases is how to properly drain the cavities from which these nodular masses have been enucleated. In a recent case I packed the cavity in the broad ligament, from which I had enucleated a gangrenous mass as large as a cocoon, with iodoform gauze, bringing the same out at the side of the pedicle which I had fixed in the abdominal wound. In addition to the gauze, I placed a metallic drainage-tube well down into the pocket. I wished to be absolutely certain that this cavity was thoroughly drained, believing that in other cases where I had trusted to gauze alone for drainage it was not satisfactory. In the first forty-eight hours we pumped out of this drainage-tube fully a pint of black blood, which, coming from the cavity occupied by this gangrenous nodule, gave a considerable odor, notwithstanding the thorough washing of the cavity through the drainage-tube. I believe it would be better in such cases to secure the most thorough vaginal drainage—not only through the opening made by the enucleation of the uterine cervix, the same being packed with gauze surrounding a drainage-tube, but by making a free and direct opening from the bottom of the cavity in the broad ligaments into the vagina. It has been taught that the danger of removing cysts or fibroids from the broad ligaments lies in the disturbance of important plexuses of nerves. My observation leads me to believe that the shock is not materially great in such enucleation, and that the bad results following such operations are due to the use of drainage which does not properly drain. But while I secured the most perfect drainage in the case referred to by bringing the drainage-tube up to the side of the pedicle, I would not advise abdominal fixation of pedicle in cases where nodular masses are enucleated from the broad ligaments and even imbedded in the region of the cervix, where we would form a pedicle, believing that these cases can be treated more successfully by removal of the entire cervix, with free vaginal drainage.

As I suggested at the beginning of the paper, one of the great objections to the total extirpation of the cervix and vaginal drainage is that we make an additional wound and have a possibility of vaginal infection. I concede, further, that it is not always possible to render the vagina surgically aseptic. . . . In a large per cent. of cases, however, a thorough washing of the uterine cavity, packing the same with iodoform gauze and then stitching the external os will prevent any purulent fluid from escaping into the vagina during our handling of the tumor. Then, thoroughly washing and even scrubbing the vagina with a brush and packing the same (including all its cul-de-sacs) with iodoform gauze, will give us a reasonable assurance that this tube has been made aseptic and reduces

the dangers of infecting the peritoneal cavity to the minimum.

In a conversation with Dr. Bantock, of London, I expressed the hope that in the near future we would be able to remove fibroid tumors with the same low rate of mortality which follows our work in removing ovarian cysts. He replied: "This can never be done, for the reason that the anatomical conditions are essentially different." Carefully reflecting over this statement, I have become thoroughly convinced that a more thorough study of the essential anatomical conditions which exist in an abdomen containing an ovarian cyst would enable us to bring the rate of mortality of the two operations to something approximating equality.

I have a number of times left the greater portion of the uterine arteries to remain in the pelvis of the patient; but from the results I had, I was thinking that the possibility of infection through the rich chain of lymphatics at the side of the uterus was greater in such cases than where broad ligaments were thoroughly constricted by ligature all the way down to the opening in the vagina. This led me to prefer cutting around the cervix to enucleating it. But carefully reflecting over the statement of Dr. Bantock that the anatomical conditions were essentially different in fibroid tumors from what they are in ovarian cysts, I have become convinced that we often find fault with the technique which we have used in treating the pedicle when the cause of death ought to be explained in some other way. For example, when the parietes of the abdomen are rendered thin by pressure of an ovarian cyst, the blood-supply is reduced so that all the intra-abdominal viscera are more or less anæmic. This condition is in marked contrast with the hypernutrition often present in and about the pelvis which contains a fibroid tumor. I am quite sure that deaths occur in consequence of our almost losing our heads in the determination to make the pedicle and all pertaining thereunto as perfect as possible, and neglecting perfect approximation of the abdominal incision, always as long as the tumor, including its peritoneum. I have many times cut through two inches of fat to reach a fibroid tumor, and unless such a wound be thoroughly closed by three rows of sutures, the internal one being fine silk with stitches not more than one-fourth of an inch apart, and then making absolute serous approximation, there is danger of infecting the peritoneal cavity by the wound leaking into the abdomen. Too often we take extreme precautions to nicely adjust the outer integument when it would be better, if any leakage from the wound is to occur, that it shall pour outward, and not inward. Again, the more vascular condition of the peritoneal cavity and its contained viscera in cases of fibroid tumors, as compared with ovarian cysts, warn us of the greater intolerance of rough manipulations, making it necessary to protect intestines and viscera as much as possible during operation by hot sterilized towels or sponges, by temporarily bringing the wound together over the intestines with a temporary stitch or vulsella, and, above all and over all, by the most thorough irrigation of the peritoneal cavity with water at a temperature of not less than 110°, not only after the work has been completed, but at intervals during the work, so as to undo the harm we do to the vaso-motor nerves distributed to the pelvic and abdominal viscera. Half-a-dozen pitchers full of water are none too many; and if we

have produced material shock, as evidenced by the pulse, a few pitchers of water poured through the drainage-tube and allowed to pour out again has at times, as I believe (permit me to say, I absolutely know), saved lives that otherwise would have been lost. The operator of to-day who seeks to do away with the "wash out" and the drainage-tube on all occasions, on theoretical grounds, is rolling the wheels of progress backward. The skilful management of a patient during shock is of very great importance indeed. The use of opium to put the disturbed tissues at rest has the genuine ring of surgical wisdom. The use of strychnia to keep up the tone of the nerves distributed to the intestinal tract, and thereby counteracting the tendency to gaseous distention of the bowels, is one of the precious comforts to the anxious abdominal surgeon when his patient is low in shock.

When Ephraim McDowell made his first ovariectomy, the citizens surrounded his house threatening his life because he was about to "butcher a woman." The sheriff of the county interfered. At first they refused to listen to his pleadings for the doctor's life. Finally he struck a compromise, the mob agreeing to let the doctor alone if the woman recovered, the sheriff agreeing not to interfere if the woman died. This was a crucial test of the doctor's heroism. Other heroic surgeons for years did not hesitate to remove ovarian cysts, but allowed women to pass on to their graves if the diagnosis convinced them that it was a fibroid tumor. Still later surgeons removed fibroids if they were pear-shaped and a pedicle could be easily formed, allowing women to pass on to their graves if the examination showed the tumor deeply imbedded in the pelvis by nodular masses. Even the great and noble Dr. Thomas Keith, after battling with fibroid tumors with as good a percentage of recoveries as any one at that date, finally abandoned fibromectomy, resorting to the use of electricity, and only wished that he had back from their graves the patients that had died from his operations for fibroids. Thank God there were others to take up the work when he became discouraged. The old adage that the qualifications of a surgeon were "the head of an Apollo, the eye of an eagle, the heart of a lion and the hand of a woman," is eminently true, especially as regards him who would seek to be successful in removing fibroid tumors. The head to plan and to meet the surprises which spring on us during such work; an eye to see quickly the exact constriction of every ligature and adjustment of every suture; the lion heart to forge forward in this aggressive work when our percentage of recoveries might be better if we would let fibroids alone, especially bad ones; the nimble wit in the end of the fingers, backed by an indomitable will to skilfully and speedily perfect the last suture with the same precision as the first, make a combination of qualifications suggesting that the surgical type of a man is not to be found thirteen times in a dozen.

No operation so thoroughly demands that the trinity of surgery be carried out—thorough preparation of the patient, thorough operating, and skilful after-treatment. As American surgeons we have a right to be proud that no other nation leads us in the originality of methods or successful results in removing fibroid tumors. Almost every State of our Union has operators who would venture to give a woman with a fibroid tumor the chances of life which surgery offers. With a more thorough and perfect understanding of the

essential anatomical conditions which make an abdomen containing a fibroid tumor different from one containing an ovarian cyst, with the realization of the ideal method applicable alike to all fibroid tumors regardless of their morphology, a method as successful in the hands of the many skilled operators as the few, may we not hope to say with all sincerity that fibroid tumors can be removed with the same low rate of mortality which has placed ovariectomy among the brilliant triumphs of the century? Then shall the torch lighted by McDowell in the midnight darkness shine forth with resplendent glory in this brilliant noonday of abdominal surgery. The century which in a few years will have rolled on to the eternal past, has placed in the magnificent temple of medicine many pillars of surpassing beauty and grandeur, while its surgical columns have risen high toward Heaven, where as gilded towers, they fain would vie with the God-given sunshine in dispelling the chill and gloom of human agony.

Chirurgia's tower, thy lights resplendent blaze,
Dries woman's tears and lengthens out her days.
McDowell and Sims, of our Columbia's clime,
Began the work moved onward nigh sublime.
To woman then, these blessings shall be given,
Queen of the home and home the type of Heaven.

Abdominal surgery is proud of her past because it is prophetic of her future. Even now in the vital present it shall stand forth unchallenged as the crowning glory of all science and of all art.

ABSTRACT OF PRESIDENT'S ADDRESS

BEFORE THE AMERICAN LARYNGOLOGICAL SOCIETY,
AT ITS SIXTEENTH ANNUAL SESSION, WASHINGTON, D. C., MAY 30, 1894.

BY D. BRYSON DELAVAN, M.D., NEW YORK.

IN opening our Sixteenth Annual Congress let me heartily welcome you to what gives every promise of being a most useful and enjoyable meeting. The support which you have given it, both by your presence and the scientific contributions provided, has been spirited and generous; and I am assured that you will still further co-operate with me in carrying it through to a harmonious and successful close. Surely the experiences in sixteen years should give light to illuminate for us the present and enable us to look forward somewhat into the future. In trying to forecast the future it is eminently right that we should indulge in retrospect, particularly for the benefit of many who may have but recently come among us and to whom our early history may be unknown. I shall aim therefore to go back with you to the early history of this Association.

[The President then gave a detailed account of the various factors which led to the formation of the Association. Special honor was paid to the preceding work of Horace Greene, who was the pioneer specialist in this country in diseases of the throat, and whose works now prove that he led the world. He died, however, before this Association came into existence; but he left behind an able and brilliant successor in Elsberg, under whose presidency the Association was formed at Buffalo in June, 1878.]

THE SOCIETY'S AIM.

The labors of Elsberg and his contemporaries in the formation of this Society were a preconceived move-