

of language to speak of these as cases of softening. The softening is, I suppose, a result of encephalitis about the tumor. We shall not refer to these cases again. For all practical purposes they belong to a distinct category. The cases which deserve to be called cases of softening are cases in which there is blocking up of cerebral arteries, or, which is infinitely rarer, of cerebral veins. Of these only shall I speak."

So clear a statement from one who has had the best opportunities for observation of this class of diseases ought to carry conviction, and it is to be hoped that it will do something to prevent the further use of an unmeaning term by physicians.

Many of the erroneous views upon medical matters held by the public are probably survivals of what was once believed and taught by physicians. While we cannot now avoid teaching much which may hereafter be regarded as merely the most generally accepted error of the time, we can aid in preventing the use of terms which are proved to be false.

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### A CASE OF CHRONIC INVERSION OF THE UTERUS SUCCESSFULLY TREATED BY PERSISTENT MECHANICAL PRESSURE.<sup>1</sup>

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MRS. M. S. entered the Massachusetts General Hospital, July 13, 1875, with the following history. She was thirty-seven years old. She had always been healthy, though not robust. She had been married two years. Ten months ago, after a labor of forty-eight hours, she was delivered, by instruments and under ether, of her first child, living and weighing eight and one half pounds. After twenty-four hours of labor, and when she had become extremely exhausted, she was bled almost to faintness, a pint or more of blood being drawn from a vein near the flexure of the arm. When she recovered consciousness after the ether, the physician was removing the placenta, an operation which he accomplished with difficulty, giving her much pain.

Hæmorrhage was constant and very abundant for a week or two, but not so excessive, except on one occasion, as to cause alarm. The urine was drawn with a catheter for ten days. On the third day after delivery, while attempting to raise herself in bed, she discovered that the "womb came outside the vagina and bled profusely." The physician, being sent for, replaced it within the vagina, made an ineffectual attempt to re-invert it, and in the course of the next week or two made several other futile efforts, with and without the aid of ether. During the

<sup>1</sup> Reported to the Boston Society for Medical Improvement, December 13, 1875.

fourth and fifth months after delivery, again, five separate attempts were made under ether to reduce it, but in vain. What method was pursued in these efforts I have no means of knowing.

At the time of admission to the hospital, ten months after her delivery, the patient was blanched and exhausted to the last degree by the hæmorrhage, which had continued at frequent intervals, and which had been excessive during the first week of each of the previous three months, — the supposed menstrual period. Examination disclosed a pyriform tumor within the vagina, which a further careful examination demonstrated to be the uterus completely inverted; its size was that of a woman's fist. Its surface was ragged and ulcerated, and bled freely upon touch. Its body was firm and hard, and the neck was narrowly contracted.

The patient being etherized, attempts at reduction were made by Dr. Minot and myself, in the following manner. A hand was introduced within the vagina, grasping the whole uterus, kneading it with the fingers to render it more pliable, and pushing it upward against the other hand and the abdominal walls pressed firmly downward just above the pubes. Relieving each other, and using all the force we deemed safe, we persisted in unremitting efforts for two hours, but to no purpose. The body of the uterus was softer and more pliable as a result of our efforts, but the os was unyielding, and we had gained nothing towards the reduction of the inversion.

An india-rubber air-pessary was then introduced into the vagina and inflated. On the fifth day afterward the bag was removed, but no change was found in the condition of the parts. The patient was again etherized, and three longitudinal incisions were made, one in front and one on each side of the os and cervix, to the depth of about one third of an inch. Dr. Minot and I then repeated our attempts at re-inversion, but without avail, and we abandoned that method.

I then procured a flexible rubber cup, of about the size of a half lemon, and with a straight and inflexible stem eight inches long. The cup was applied to the inverted fundus, and the end of the stem, projecting some distance from the vagina, was attached by straps, one over the pubes and one over the sacrum, to a belt fastened around the waist. The crest of the ilium of course kept this belt from being dragged downward; and by buckling the two straps tighter or more loosely we could easily regulate the direction and amount of the force applied. Both straps were buckled tightly, and the patient was kept upon her back in bed. On the second day she had a chill with subsequent fever (temperature 102°), and some tenderness of the abdomen. Whether this was due to the pessary, or to the previous attempts at reduction, I cannot say, but the pessary was removed, and in four or five days these symptoms subsided.

The pessary — *i. e.*, the cup with the stem — was now reinserted, and the straps tightened so as to produce constant firm pressure upward against the whole fundus. On the third day the os seemed to have yielded so as to allow a small portion of the cervix to resume its normal position. On the seventh day the uterus was reinverted one half, so that the fundus was at a level with the os. The cup was then cut off, leaving only its base, a flat surface three fourths of an inch in diameter, to be applied to the fundus. On the eighth day this was found to have passed one and one half inches up within the cervix, pushing the fundus before it, and on the ninth day of the continuous pressure the inversion was completely reduced, the sound passing three inches above the os.

During the treatment there was a profuse foetid and purulent discharge from the uterine surface, which, in the exhausted condition of the woman, might easily have proved the origin of septic poisoning, had it not been for the abundant vaginal douches of tepid water frequently given by the skillful nurse in such a manner as not to disturb the apparatus.

I examined the woman again a few days ago, three and a half months after the treatment. She was rapidly recovering from the extreme anæmia, and called herself quite well. She had menstruated regularly each month, though the flow of blood was but slight. The uterus was in normal position, was not painful or tender to touch, and the sound entered two and three fourths inches.

It will be seen that the constant pressure wearied out the constricting muscles of the os, that the cervix was the first part to be replaced and the fundus last, much after the manner of reducing a hernia. The inversion undoubtedly occurred at the time of delivery. Forcible taxis effected nothing, and incision of the os and cervix did not render them any more easily dilatable. The air-pessary was perhaps not long enough persisted in to say whether it would eventually have accomplished its object.

In all the cases recorded and quoted by various authors, the methods adopted in their attempts at reduction divide themselves under two heads: (1) forcible taxis, and (2) prolonged gentle pressure. By the former method many cases are undoubtedly reduced, but many come to amputation or to death as a result of the attempts at reduction.

One of the most daring, it might almost be called reckless, attempts at forcible reduction is recorded by Professor Thomas, of New York, who in 1869 treated a case by making an incision through the abdominal walls and peritoneum, inserting through this opening a dilator, made like an ordinary glove-stretcher, into the inverted os, dilating the constriction, and, with the other hand in the vagina, pushing up the uterus as the dilator was withdrawn. The reduction was accomplished with

difficulty, for the os contracted like india-rubber the instant the dilator was removed. Nevertheless the woman recovered, not only from the incised wound of the peritoneum, but also from a lacerated wound made by the fingers thrust through the vaginal wall, between the uterus and the bladder, into the peritoneal cavity, in the violence of the attempts to reduce the inversion. Professor Thomas's own account of the method would not encourage another to repeat it, except as a last resort, and as possibly preferable to amputation.

Of the milder methods, that of Dr. Tyler Smith, by sustained elastic pressure by the air or water bag within the vagina, is the one which has been most frequently employed. It is perfectly safe, and often accomplishes the desired result, especially when combined with frequent manipulation of the uterus; but in about one fourth of the recorded cases it has proved ineffectual.

The method I pursued would seem equally safe and much preferable, because the force can be so nicely regulated, and applied in the desired direction, without that great distention of the vagina and pelvis which is unbearable to many women. I have found recorded but two cases treated in this way (both of them successfully), by Dr. Robert Barnes, who fully describes the method and figures the apparatus in his recent *Clinical History of the Diseases of Women*. After a most complete *résumé* of all the different procedures which have been adopted, he shows conclusively, by a comparison of results, that sustained elastic or solid pressure is much safer for the woman and much surer to accomplish the reduction than forcible taxis. He clearly enunciates the principles which should always govern attempts at reduction, saying of forcible taxis and sustained pressure, "The principles of the two procedures are totally opposite. One tries to overcome resistance by sheer force rapidly applied, the other by gentle pressure long sustained. The first is replete with danger, the second absolutely safe." He also shows that, of all the methods of procuring a constant pressure, this one, of the rubber cup and stem attached outside, is the best of all, because the direction and amount of the force used can be so nicely regulated by the physician.

The recorded cases show that inversion generally occurs at the time of delivery, either in consequence of traction upon the still attached placenta, or more rarely in consequence of paralysis of the placental site. In 1847, Mr. Cross, collated four hundred cases. Three hundred and fifty occurred soon after delivery, and forty of the remaining fifty were due to polypi. It seems also to be pretty well established that spontaneous replacement of a chronic inversion rarely, if ever, takes place. There are several cases related which would go to show its possibility, but they are not established beyond a doubt. A *recent* inversion is generally easily replaced, and no doubt often spontaneously

so ; but Dr. West says, "It is easier to conceive how an experienced man should commit an error of diagnosis than to understand how any effort of nature could cure a chronic inversion of the womb." The force of this remark will be seen when it is remembered that some of the most experienced gynæcologists and obstetricians have amputated or attempted to amputate the uterus, under the impression that it was a polypus.

Here in America, the favorite method of treatment has been taxis, *i. e.*, manipulations with the hands, either gentle or forcible, according to the judgment of the individual operator. A few years ago, Dr. White, of Buffalo, related to this society several cases treated by himself in this way, supplementing his hands by an instrument like the ordinary single wooden stethoscope. His results were very favorable, and occasionally remarkable, but we cannot forget the danger of producing a peritonitis, even without lacerating the vaginal or uterine walls.

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## RECENT PROGRESS IN MEDICAL CHEMISTRY.<sup>1</sup>

BY EDWARD S. WOOD, M. D.

### URINARY CHEMISTRY.

*Bile Pigments in the Urine.* — L. Lewin<sup>2</sup> has had a specimen of urine to examine which contained bile pigments, and yet in which, after filtration, Gmelin's test (by nitric acid) failed to detect them. The urine was of a greenish-brown color, and when it was shaken a greenish-yellow foam was perceptible on the surface, which would lead one to suspect the presence of a considerable amount of bile pigment. The sediment was of a deep reddish-brown color, and consisted of urates. This sediment, when dissolved in warm water, gave the characteristic play of colors for bile pigments with Gmelin's test, while the filtered urine gave no such reaction. The sediment must, therefore, have carried down mechanically all of the pigment. Hence when the presence of bile pigments is suspected, and the urine contains a sediment of urates, not only the fluid but also the sediment must be tested.

Bile pigments have the property of adhering to precipitates much more powerfully than any of the other pigments, either normal or abnormal, of the urine. Hence Dr. J. F. Tarchanoff<sup>3</sup> recommends, in order to separate with certainty the biliary from the urinary pigments, precipitating the urine with milk of lime, freeing from an excess of lime by a current of carbonic acid gas, allowing the whole to stand a few hours, filtering, and washing the precipitate with water. The bile pigments are contained in the precipitate, while the indican, hæmoglobin,

<sup>1</sup> Concluded from page 15.

<sup>2</sup> *Centralblatt für die medicinischen Wissenschaften*, 1875, No. 6.

<sup>3</sup> *Pfüger's Archiv*, ix. 53.