# ORGANOSCOPY.

## CYSTOSCOPY OF THE ABDOMINAL CAVITY.

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In October, 1910, Jacobaeus, of Stockholm, published a brief note in the *Münchener medizinische Wochenschrift* concerning the possibility of cystoscopic investigation of the serous cavities.[1] According to his plan the abdominal cavity is punctured with a trocar, corresponding in size to a No. 17 Charriere catheter. Through this tube, which has a trap-door, filtered air is first pumped into the peritoneal cavity and then a Nitze cystoscope, corresponding in size to a No. 14 Charriere, is inserted. The cystoscope, too, has a trap-door to keep the air pumped into the peritoneal cavity from escaping.

By this method it was possible to subject to visual examination the abdominal viscera in certain obscure conditions, in which a large incision or one of sufficient size to permit the introduction of the hand was objected to by the patient and not considered desirable by the physician. In other words, Jacobaeus hoped to do for the general abdominal cavity what is now an every-day occurrence as regards the bladder—to diagnose conditions by means of the cystoscope.

After some practice on the cadaver, Jacobaeus made clinical use of this instrument in 17 cases of ascites, the method of procedure having been, first, to draw off the fluid through the trocar and then pump air in before inserting the cystoscope. In one case he diagnosed a metastatic nodule in the

[1] H. C. Jacobaeus: Ueber die Möglichkeit die Zystoskopie bei Untersuchung seroser Höhlungen anzuwenden, Münch. med. Woch., No. 40, 1910.

liver; in another carcinoma of the stomach; and in still another a general carcinosis of the intestines. He also used the method twice in the pleural cavity, but could make out nothing definite.

Early in 1910 a similar idea had occurred to us, and in April of the same year, we started some experimental work in the Hunterian laboratory to decide as to the feasibility of the idea. Its possible worth soon became apparent, and we have now evolved the following method of procedure:

An ordinary proctoscope of one-half inch bore, the distal end of which is blunted by means of a metal collar, serves as the cystoscope. An electric headlight furnishes illumination. Through an incision made in the epigastrium of sufficient size to accommodate the instrument, the tube is inserted (without obturator) until its blunted end comes down on the anterior wall of the stomach. The normal peritonitic fluid will allow the tube to gently glide from place to place, and first the lesser, then the greater, curvature can be thoroughly inspected. Following this, the gall-bladder can be easily located and viewed, together with the underlying surface of the liver. On withdrawing the tube a little until the distal end is again just over the stomach, its outer end is tilted almost flat on the outer abdominal wall until the parietal peritoneum comes into view. By inserting the tube further in then and sweeping it around, always keeping the parietal peritoneum in view, the abdominal cavity can be inspected with surprising freedom. The omentum naturally precludes a good view of the intestines, unless, as is sometimes possible, one can shove it aside or get under it, but the tube can without difficulty be swept over the whole upper surface of the liver, so that this and the overlying diaphragm can be brought into view. There is always the possibility of encountering adhesions, and it is on this account that the obturator is dispensed with, because when seen they are easily avoided, the involved area being inspected on all sides.

In addition to this, acting on the theory that nothing definite has been found in a given case, we have drawn a part of

the stomach out through the wound, made an incision in its anterior wall, and inserted the cystoscope directly into its cavity. A stomach tube passed in through the mouth acts as a guide in this procedure and aids in a careful inspection of the whole gastric mucosa. On withdrawing the cystoscope, the wound in the stomach is closed in the usual way.

In certain cases of early carcinoma of the stomach, this method of examination may prove of some value. Likewise, the presence of an obscure ulcer may be thus disclosed and submitted to the proper treatment. In cases of ordinary exploratory operation for carcinoma, before having recourse to the usual large incision, the cystoscope introduced through a very small and relatively unimportant incision, possibly made with cocaine, may reveal general metastases or a secondary nodule in the liver, thus rendering further procedures unnecessary and saving the patient a rather prolonged convalescence. In other obscure conditions of the upper abdomen,—possibly the abdomen in general,—the diagnosis might be cleared up by this simple method. Its field of usefulness also might in the future be extended to the thorax, though this is a development which we ourselves have only in mind.

Through the courtesy of Dr. W. S. Halsted, we were first enabled to try our method clinically. The patient was a man who had been deeply jaundiced for some time, and in whose abdomen a markedly distended gall-bladder could be palpated. In the upper right epigastrium the tube was inserted, coming down first upon the omentum. This was shoved aside and by dipping the outer end of the cystoscope on the abdominal wall, the distal end was easily manipulated until it came up against the distended gall-bladder. This was inspected carefully on all sides and down to its neck. There were no adhesions and no abnormalities. Following this, in the manner described above, the parietal peritoneum was brought into view, and then the whole surface of the liver was inspected. No nodules were discovered. The tube was then withdrawn and the incision enlarged for the usual exploratory laparotomy, whereupon a carcinoma of the head of the pancreas was found. The

cystoscope findings as regards the gall-bladder and liver were corroborated; in other words there were no metastases. Obviously, a structure lying as deeply as the pancreas could not be inspected.

In a second case, that of Dr. William A. Fisher, Jr., the cystoscope was brought into use in order to rule out, if possible, the presence of a gastric ulcer. This we succeeded in doing, the case proving to be one of chronic appendicitis.

Though it is hardly possible to decide as to the merits of any procedure by two clinical cases, we feel that the results obtained in these cases were sufficiently encouraging to warrant a further trial.