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A TRIMANUAL METHOD OF PERCUSSION FOR THE DETECTION OF CYSTIC OR LOCCULATED FLUIDS IN THE ABDOMEN.

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In the diagnosis of abdominal tumors, Dr. Osler says that Bishop Butler's maxim, "Probability is the rule of life," is particularly true, "and the cocksureness of the clinical physician who formerly had to dread only the mortifying disclosures of the post-mortem room is now wisely tempered when the surgeon can so promptly and safely decide upon the nature of an obscure case."

While Bishop Butler's maxim may still be true in some instances, we find that with the refinement in diagnosis, which has kept pace with other recent ad-

vances in abdominal surgery, fewer and fewer mistakes are being made.

The very fact, however, that an exploratory section is so easy and so free from danger under well-regulated conditions may, in some instances, have led to greater carelessness than to accuracy in diagnosis. As a proof of retrogression, or at least a failure to progress, the expression is not infrequently heard that "one can never be sure of the nature of an abdominal tumor until the abdominal incision is made."

In the diagnosis of abdominal enlargements,

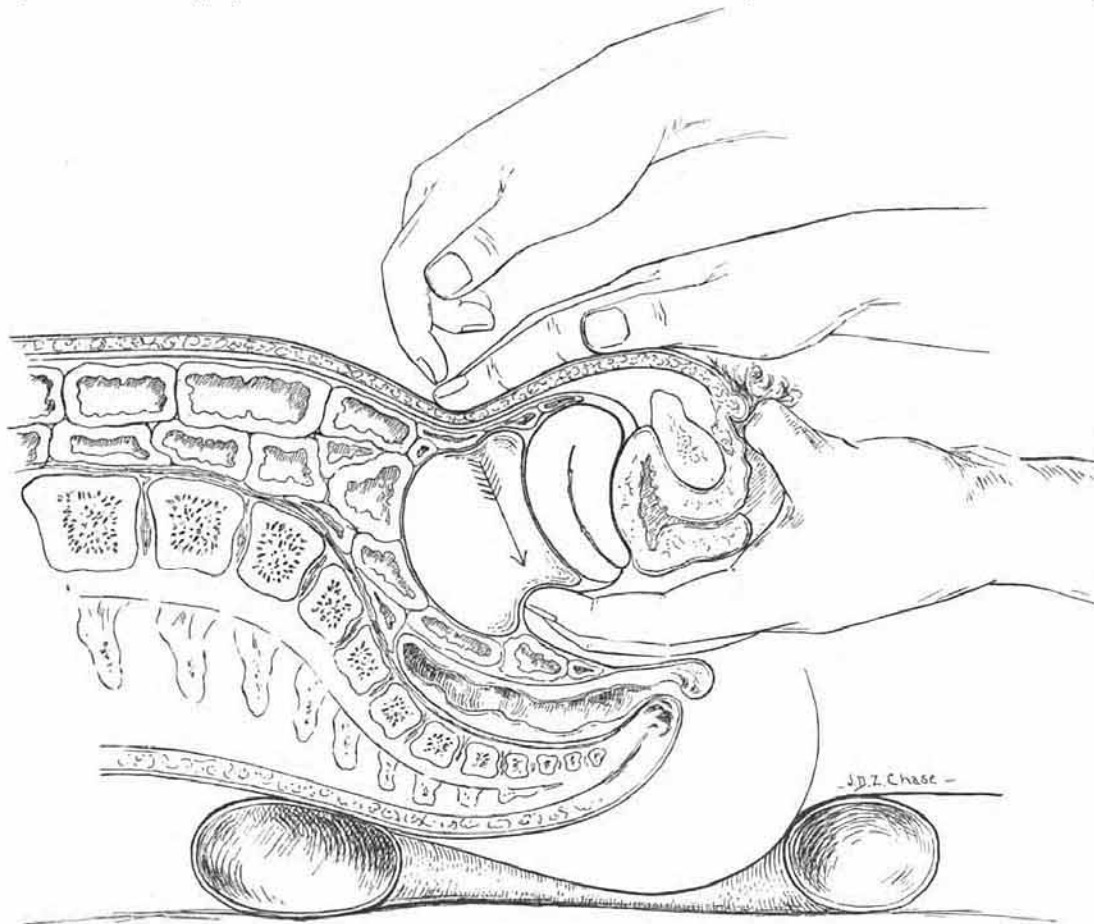


FIG. 1.—Trimanual percussion of fluid accumulation in the pelvis. The vaginal index finger makes deep indentation in the vaginal vault posterior to the cervix, counter-pressure being made by the abdominal hand pressing down against the tumor mass, thus collapsing or displacing the intestine, while the assistant lightly percusses the tip of these fingers.

Richard Bright has said that we arrive at conclusions through "the form and appearance presented to the eye; the form still further discovered by touch; the resistance ascertained by pressure; the sounds elicited by percussion; and, in a few instances, the sounds perceptible to the ear, either alone or by aid of the stethoscope."

In the abdominal tumors of women, the combination of touch and palpation in the bimanual pelvic examination is by far the most efficient means of diagnosis at our command.

appendages, may closely simulate a pelvic abscess. In fact, even in skilled hands, a vaginal incision or puncture may be made into a soft tumor mass in the thought that it is encapsulated pus. Similar errors in diagnosis may frequently occur in other parts of the abdomen. Thus a tense hydro- or pyosalpinx may be mistaken for a solid tumor; a distended gall-bladder for a tumor of the liver or kidney; a deep-seated collection of pus about the appendix for a tumor of the coecum or omentum. These mistakes may, in some instances, be unavoidable, not-

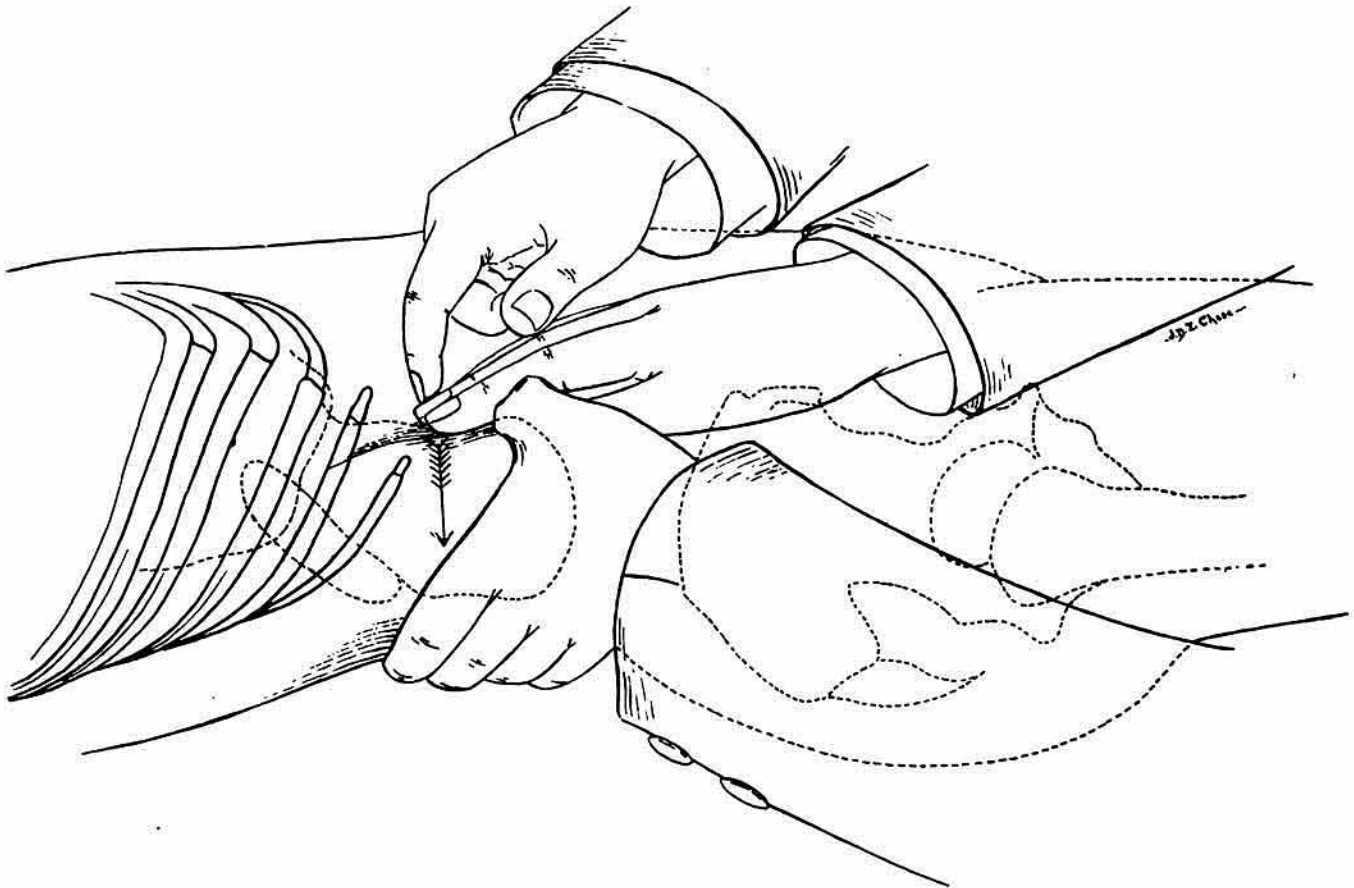


FIG. 2.—Trimanual percussion of fluid tumor in the region of the liver and kidney. One hand is sunk deeply into the loin, slightly posterior, thus pushing up as far as possible the tumor, while the other hand presses downwards against the tumor. Percussion is then made by the assistant the same as in the pelvic examination.

The tactile sense, naturally, becomes more and more acute with increasing experience, so that structures, which to the novice are unrecognizable, may easily be outlined when a sufficient *tactus eruditus* is acquired. In my own experience the chief difficulty in the differential diagnosis in obscure cases has been in judging the consistence of a tumor or encapsulated mass as to whether it was fluid or solid. This differentiation is of vital importance in many cases. Thus, for instance, an adherent soft intraligamentary myoma, associated with inflammatory disease of the

withstanding the greatest refinement in physical diagnosis.

For the detection of fluid, in these obscure cases, I have employed for the last two years or more a trimanual method of percussion, which has, in several cases, proved of signal value, at once clearing up an otherwise doubtful diagnosis. This method was first employed as a means of differentiation between fluid and solid pelvic tumors. On bimanual examination of a pelvic mass of questionable consistence, the intestines intervening between the anterior abdominal

wall and the tumor may dissipate the percussion impulse of the abdominal hand, and although fluid may be present, a wave of sufficient intensity to be felt by the vaginal touch is not induced. To overcome this difficulty the tumor mass should be confined as closely as possible between the two examining hands, while the percussion is made by an assistant. With light, quick taps, even small collections of fluid may be detected by the quick, responsive, pulsatile wave passing from the abdominal to the pelvic hand (Fig. 1). Since proving the value of this method in pelvic examinations, I have systematically employed it in the differential diagnosis of abdominal tumors. In this way an adherent and distended gall-bladder may accurately be diagnosticated, one hand pressing deeply in over the hypochondrium, while with the other deep counter-pressure is made just below the fixed ribs (Fig 2). If fluid is present,

light percussion over the upper hand will give an unmistakable wave in many instances. In one case this method proved of considerable value in the differentiation of an appendicial abscess situated beneath the cecum and the lower lobe of a downward displaced liver. Only through the employment of this method was it possible definitely to recognize the deep-lying encapsulated pus, the ordinary percussion wave being destroyed by the superimposed liver. I find this method of signal value, for it is of great assistance in clearing up doubtful cases which hitherto have only been definitely settled by an exploratory incision.

I have looked over various text-books and the leading reference books to discover whether this method has been hitherto described, but so far find no account of it, and therefore deem it sufficiently novel to merit publication.