

Kelly (H. A.)

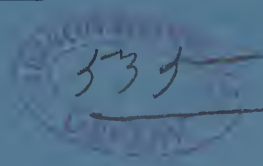
THE PALPATION
OF
NORMAL OVARIES.

BY
HOWARD A. KELLY, M.D.,

Professor of Gynecology in Johns Hopkins University; Gynecologist and Obstetrician
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Baltimore, Md.

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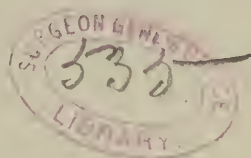
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THE PALPATION
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By HOWARD A. KELLY, M.D.

DISEASE is a departure from health; health is therefore the standard by which the existence and the amount of disease is to be measured.

Manifestly no man can be considered fit to measure anything who is unacquainted with the standard unit of measure. Yet this has been the course pursued in the development of gynecology. Ovarian cystomata, grossly the most abnormal alterations of the ovary, were first recognized as diseased and attacked, then lesser (in size) pelvic diseases were discovered and operated upon, for a long time before it was established what actually was a normal ovary or a normal tube, the only proper gauge of the existence and extent of disease.

As a consequence of this error, operations actually unjustifiable have been performed, and the follicles of normal ovaries, and tubes showing a few little sudamina-like papules,

¹ Read before the Baltimore Obstetrical and Gynecological Society, December, 1890.

have often been exhibited in societies as examples of the triumph of surgical skill over disease.

If scientific gynecology has placed within reach an appeal to the standard, the means of examining the normal ovary before undertaking an operation, it is clear that no man now has a right to enter the ranks of this specialty who has not thoroughly familiarized himself with the palpation of the normal ovary, having mastered all points in the technique of this examination.

Palpation, or examination by indirect touch, is the only accurate means of determining the condition of the ovary in the living subject.

I would begin my paper by laying down this capital proposition : *The normal ovary can always be palpated.*

There are two methods and two avenues of approach by which to palpate the normal ovary—that is, with one hand or with two hands, by the vagina and by the rectum.

An important prerequisite to a careful exploration of the pelvis is to empty both rectum and bladder.

VAGINAL PALPATION WITH ONE HAND.

In examining with one hand by the vagina, the ovary cannot be felt unless it is abnormally displaced downward, having fallen into the recto-uterine pouch, where it may be discovered by pressing just back of the cervix uteri (see Fig. 1) in the median line, or a little to the right or left : a rounded, somewhat elastic body, about the size of the last phalanx of the thumb, slipping up and away under the pressure (see Fig. 1, dotted line). Any attempt with one hand to feel the ovary not thus displaced fails, or gives at the utmost but an uncertain idea of its presence ; because as soon as it is touched it yields to the pressure and is displaced upward and out of reach. An examination of the ovary with one hand is therefore always incomplete and often of little use.

There are three ways of examining the ovary which is normally suspended high up on the posterior face of the broad ligament. Two of these ways are bimanual, and one is tri-manual, and each method may be employed either per vaginam or per rectum, making thus six in all. They are :

I. *The simple bimanual examination of the organs in situ, through vagina or rectum and abdominal wall.*

II. *The bimanual examination with the uterus in artificial anteflexion-retroposition, through vagina or rectum and abdominal wall.*

III. *The trimanual examination, with the uterus in artificial descensus, also through vagina or rectum and abdominal wall.*

I. THE SIMPLE BIMANUAL EXAMINATION

depends for its success upon the deep displacement of a part of the abdominal wall, in a direction downward, through the



FIG. 1.—Palpation of displaced ovary with one hand.

superior strait, into the pelvis. The pressure must be made on that part of the wall directly overlying the ovary, called the "ovarian region," and continued downward, inward, and forward. The external hand thus employed does not feel the ovary; it does nothing more than to supply by this pressure a plane of resistance (see Fig. 2), preventing the upward displacement and gliding away of the ovary when touched by the finger of the other hand examining within the vagina. While one hand is thus engaged in making pressure from above downward in the direction of the ovary (see Figs. 2 and 3), the index finger of the other hand is simultaneously introduced up to the fornix of the vagina of the same side (see Fig. 4).

Two acts of the vaginal hand now bring the ovary within reach of the finger; by one of them the vaginal fornix is dis-

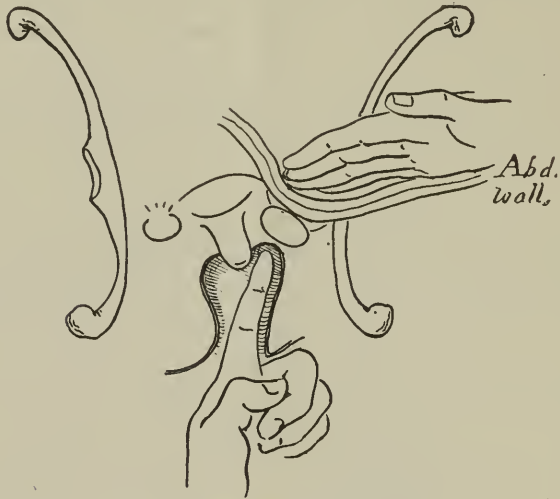


FIG. 2.—Bimanual examination.

placed upward and outward from two to four centimetres

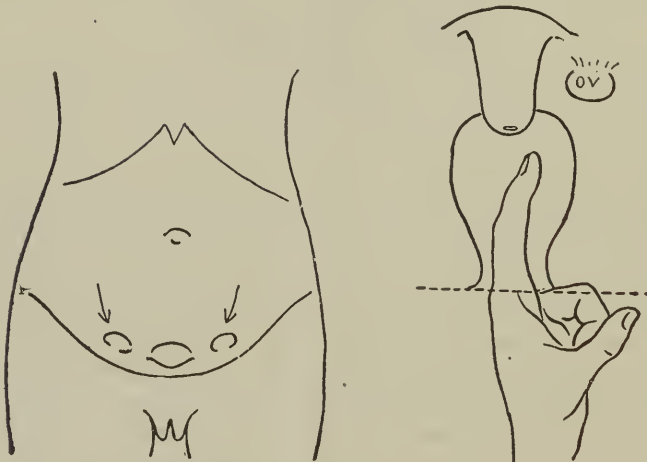


FIG. 3.

FIG. 3.—The arrows indicate the direction of pressure.

FIG. 4.

FIG. 4 shows the index finger unaided and unable to reach the ovary.

(see Figs. 2 and 5). By the other the perineum and the vaginal outlet are invaginated up into the pelvis from four to

six or more centimetres (compare Figs. 4 and 5). *This invagination of the pelvic floor is of the utmost importance, as by this means the examining finger is practically lengthened by the amount of the invagination, or, what is the same thing, the vagina is shortened.*

Invagination is not as simple and easy to practise at first as one would infer from the description. Every one who has practised on the piano knows well that the awkward playing of beginners is largely due to an involuntary fixation of the wrist joint while using the finger muscles. The same difficulty is met here. The great obstacle experienced by a be-

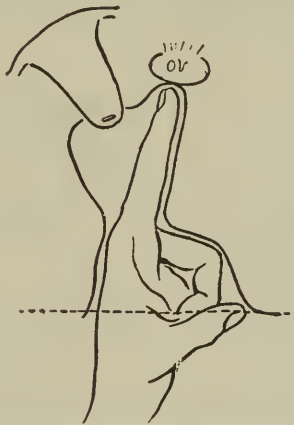


FIG. 5 shows the displacement of the vaginal vault and the invagination of the pelvic floor above the normal (dotted) line. The chief displacement is posteriorly, not lateral as shown.

giner in thus invaginating the pelvic floor to bring the ovary within easy reach, arises from a faulty rigidity instinctively communicated to the wrist and hand joints. *The pushing must be entirely from the elbow, while the wrist and hand remain perfectly flexible.*

This act will be assisted at first by supporting the elbow upon the brim of the pelvis and pushing with the hip, which relieves the tension on the arm muscles and the liability to a constrained position of the hand and finger.

When the uterus lies in anteflexion, the ovary will often be detected through the antero-lateral vaginal wall in advance of

the cervix (see Fig. 6), and in this position, assisted by the hand above, easily examined by the vaginal finger thus aided; for, instead of escaping at once from the upward pressure of the finger within the vagina, it is met by the plane of resistance offered by the displaced abdominal walls, and against this plane is distinctly felt, and can be subjected to a continued pressure, or even tightly squeezed in the examination if deemed judicious. A little mutual play of the hands working together in this way, at first in one direction and then in the other (see Fig. 7), will thus allow the whole organ to be accurately outlined, completing a very satisfactory examination. When the abdominal walls are rigid and cannot be displaced into the pelvis by the outside hand sufficiently to give

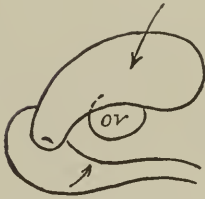


FIG. 6.

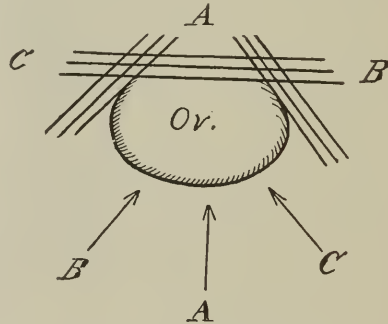


FIG. 7.

FIG. 6 shows the directions of pressure to palpate the ovary in some cases of ante-flexed uteri.

FIG. 7.—The parallel lines *A*, *B*, *C*, represent the abdominal walls displaced downward, first in direction *A*, then in direction *B*, and then *C*, while the vaginal finger at the same time is making counter-pressure in directions *A*, *B* and *C*, and thus determining the size and form of the ovary.

the necessary plane of resistance against which to palpate the ovary, or when the vagina is unusually deep or the examination painful, the object in view can be attained by putting the patient completely under an anesthetic. This produces at once marked relaxation, and the ease with which difficulties previously insurmountable are thus overcome is often astonishing. Such is the simple bimanual examination.

Not to be prolix, I will omit any description of the two remaining methods of examination as conducted per vaginam, because these are more efficiently applied through the rectum, the same rules governing both, *mutatis mutandis*.

THE RECTAL EXAMINATION.

While the examining finger in the vagina is always impeded by the low attachment of the vault of the vagina to the inferior part of the uterus, we have in the rectum, as will be seen by reference to Figs. 8 and 9, a channel in which no such limitation exists.

A rectal examination is conducted in this way :

After thorough evacuation of the lower bowel, the well-oiled index finger is introduced through the anus and carried up behind the uterus, invaginating the pelvic floor, as previously described, until the finger attains the upper third of the pelvis. There is usually some difficulty in finding the passage-way up behind the cervix at the "third sphincter," on ac-

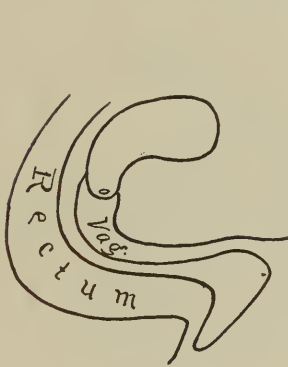


FIG. 8.



FIG. 9.

FIG. 8 is a diagrammatic representation of the relation of the rectum to the posterior surface of the uterus, showing the advantage of a rectal over a vaginal examination.

FIG. 9 shows the palpation of the posterior surface of the uterus through the rectum.

count of a number of lax folds, just below this point, which catch and embarrass the finger in its effort to discover the smaller communication with the bowel above. This small opening must, however, be gently and patiently sought. When it is found, the finger suddenly slips upward into an apparently free space without limit above. By this means the whole of the posterior surfaces of the uterus and broad ligaments is exposed to touch.

The bimanual examination then begins by using the external hand, as already described, to push down the abdominal walls, keeping the pelvic structures from being displaced

upward out of reach while the palpation by means of the hand within the rectum proceeds.¹

The thin walls of the wide rectum lying immediately behind the uterus afford a ready means of examining minute details of the uterine and ovarian surfaces.

In a rectal examination the pressure from above is to be directed somewhat differently from that in the vaginal examination—starting a little nearer to the anterior wall of the pelvis, and possessing more the motion of scooping the ovary downward and backward within reach of the inside finger.

The ovary is, as a rule, quickly recognized by sweeping the rectal finger, aided as described from above, laterally to the



FIG. 10.



FIG. 11.

FIGS. 10, 11, 12, 13 show the mechanism of the production of an artificial retroposition of the uterus—10, throwing the fundus up; 11, catching the fundus with the outside hand; 12, forcing the fundus back into the hollow of the sacrum, and rotating the cervix forward; 13, the external hand maintains the displacement while the internal finger palpates.

uterus and over the posterior surface of the broad ligament, until the easily displaced but always returning characteristic ovoid structure is found.

It may prove at this juncture that the outside hand is not

¹ With practice and the attainment of great skill the external hand will do much more than is here described. It can actually be used to hand the pelvic structures to the pelvic finger or fingers, and then to play these structures over the sensitive pulp of the vaginal or rectal fingers, while these remain in one place and position. I wish here, however, to speak more of the elementary and the essentials.

bearing down in just the right direction to assist the finger within. A little readjustment to one side or the other corrects this error, when the ovary can be carefully examined in its length and breadth and over its whole surface, even to the extent of detecting distended follicles, pits, or other topographical peculiarities. The finger can also be inserted under the dependent free border of the ovary, and upon lifting it up test its mobility or discover the slightest peritoneal adhesions.

II. BIMANUAL EXAMINATION OF THE UTERUS AND OVARIES IN RETROPOSED ANTEFLEXION.

It happens at times with the best directed efforts that the whole of the posterior surface of the uterus and the ovaries

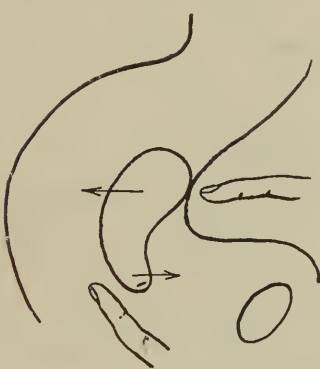


FIG. 12.



FIG. 13.

cannot thus be satisfactorily examined, whether because an ante flexed fundus lies with the ovaries too far forward in the pelvis, or because the individual is so fat or the perineum so unyielding that the finger cannot reach far enough up into the pelvis. A satisfactory examination will be secured under these circumstances by making a different use of the external hand—pushing the uterus back into a temporary artificial retroposition, and by this means bringing the body with its lateral structures within easy touch.

The technique of this artificial retrodisplacement is the following: The fingers are thrust down behind the symphysis and an effort made to catch the fundus and push it over backward. If this does not succeed, the index finger of the oppo-

site hand is introduced within the vagina, throwing the fundus up and within reach of the outside hand (Fig. 10), which catches it (Fig. 11) and glides down on to the anterior face of the uterus (Fig. 12), and, keeping up the backward pressure, the retroposition is completed (Fig. 12) by forcing the uterus into a reclining position in the sacral hollow. (See Figs. 10, 11, 12, 13 and description.)

If now, with the uterus thus artificially displaced, we introduce the examining finger high up into the rectum in the manner already described, while continuing the downward pressure from above (see Fig. 13), the clearness with which the posterior surface of the fundus uteri, and even a part of



Fig. 14 illustrates the palpation of two small fibroid tumors on the posterior face of the uterus, which is in artificial retrodisplacement.

the anterior face of the uterus, can at once be felt, is practically equal to a digital examination of the naked uterus through an abdominal incision. By this means I have detected two fibroid tumors on the fundus and posterior surface of the body of the uterus, one of which was as big as, and the other not quite as large as, a pea (Fig. 14).

But even here conditions may exist under which it will be difficult to discover the ovary—when, for example, it is unusually small, or when an exudate covers in the ovary on the broad ligament, or when there is some involvement of both ovary and the fimbriated end of the tube in a common inflammatory process. A concealed or uncertain mass, under these circumstances, may demand some more crucial test than its

resemblance in form and consistence to establish its identity. Such an *infallible guide exists in the utero-ovarian ligaments*, which can be recognized as well-defined, prominent bands of tissue forming a prominent ridge on each side of the posterior surface of the broad ligaments near the fundus uteri. The quickest way to find this ligament is to run the finger, beginning at the cornu uteri, down the side of the uterus at its broad-ligament attachment. Two prominent folds are thus discovered on each side—the upper one, of which we are speaking, about one-fourth way down, and a lower sharp fold in the cervical region; this latter is the utero-sacral fold sweeping back towards the sacrum (see Fig. 15).

Taking this upper, the utero-ovarian fold, as a leader, and

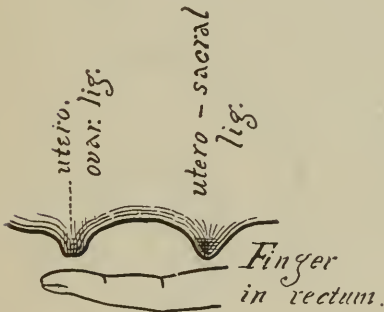


FIG. 15.

FIG. 15 shows the two ridges felt in the broad ligament lateral to the uterus; the uppermost is the utero-ovarian ligament.

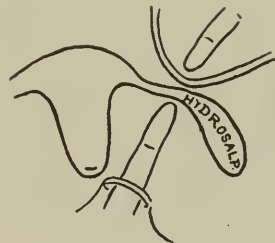


FIG. 16.

FIG. 16 shows how it is possible to palpate a small hydro-salpinx in this way per rectum.

following it with the finger out from the uterus from one and a half to two and a half centimetres, it there widens out into a hard body which is always the uterine pole of the ovary. If this body is but ill-defined, or more or less fixed, or continuous with an indistinct mass laterally, the evidence of the involvement of the ovary in pelvic peritoneal inflammation is established.

We can also make another use of the ovarian ligament and the cornu uteri by taking them as guides to the top of the broad ligament, about one and a half centimetres above, where there is no doubt that the little, elongate structure there felt, parallel to the ovarian ligament, and gliding so readily between the finger within and the depressed opposed abdo-

minal wall, is the Fallopian tube, which can often, in its normal condition, be traced out along the top of the broad ligament towards its ampullar end. The slightest thickening makes the whole tube at once easily palpable. I have in this way detected a hydro-salpinx where the tube has not contained more than three or four centimetres of fluid (see Fig. 16).

III. THE TRIMANUAL EXAMINATION WITH ARTIFICIAL DESCENSUS UTERI.

We now come to a third alternative in the methods of examination, which I have called *the trimanual* because it em-



FIG. 17.

FIG. 17 shows the uterus brought down within easy reach of the rectal finger by traction on the cervix.



FIG. 18.

FIG. 18 shows the corrugated tenaculum hooked into the anterior lip of the uterus, preparatory to bringing it down towards the vaginal outlet.

plies three hands. The essential feature here is the fact that the normal uterus will bear a displacement downward, or, more literally, a forced descensus, until the cervix appears at the vaginal outlet, without any damage from traction upon the intrapelvic supports.

The trimanual examination is conducted in this way: Catching the anterior lips of the cervix with a pair of bullet forceps or a tenaculum, it is drawn slowly down without resistance towards the vaginal outlet. An assistant takes the tenaculum, holding the uterus just at, or from one to two centi-

metres above, the vaginal outlet, while the operator makes a bimanual examination through the rectum and abdominal walls upon uterus and ovaries thus subjected to the maximum downward displacement (see Fig. 17). The facility with which the uterus and its adnexa can thus be reached is even greater than by the preceding method.

To obviate the awkward necessity of employing an assistant to hold the uterus down while making this examination, I have invented a tenaculum to be hooked into the cervix and drawn down, the handle of the tenaculum being grasped in the pelvic hand between the ball of the thumb and the last.



FIG. 19.



FIG. 20.

FIG. 19 shows the uterus brought down to the vaginal outlet by means of the corrugated tenaculum.

FIG. 20 shows how the corrugated tenaculum may be grasped in the same hand which is engaged in examining the uterus through the vagina or through the rectum, while the outside hand depresses the abdominal walls, assisting in the palpation of ovaries and tubes. In this way two hands do the work of three.

phalanges of the second and third or third and fourth fingers, or, in a rectal examination, it may simply be held between the dorsal surface of the third and the palmar surface of the fourth fingers. This leaves the index finger of the same hand perfectly free to make the examination with the usual assistance of the abdominal hand above (see Figs. 18, 19, 20).

To get a good hold on the tenaculum, I have made it flat.

and corrugated, calling it from this the corrugated tenaculum. I make constant use of this little instrument, finding that it assists me most of all in examining young women.

Thus by one or other, or several of these methods in succession, the uterus, the broad ligaments, the ovaries, and the tubes are within reach of a most thorough and searching examination, revealing at once the smallest abnormalities. Ought not every gynecologist to be well posted in this matter?

