

THE TWO HEGAR SIGNS OF PREGNANCY

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WHEN Hegar first published his observations on the early uterine changes of pregnancy, he described two very characteristic signs. The first of these is known the world over as Hegar's sign and consists in the softening of the lower uterine segment. The second Hegar sign, the production, by proper technic, of a definite fold in the anterior uterine wall, as shown in Fig. 1, I have looked for in vain in every American textbook or article on obstetrics within my reach.

Furthermore, not a single one of the undergraduate or postgraduate students to whom I have described and demonstrated this sign had ever heard of it before.

It seems to have been consigned to total oblivion and, in my opinion, unjustly because, in doubtful cases where Hegar's first sign is doubtful, the other Hegar sign may be a great aid in arriving at a correct diagnosis.

To elicit the sign is easy enough, its only possible disadvantage may lie in the fact that the examiner needs help from a second person to steady the uterus. Retroflected uteri, of course, have to be replaced before the sign can be elicited. The technic of its detection is seen clearly in Fig. 1.

As to the first sign, it is probably felt best and most easily by examining with the index finger of one hand in the rectum and pressing down on the lower uterine body segment with the other hand.

This sign, as stated in most textbooks, may be so marked that the impression is given that one is dealing with a small uterus and an ovarian cyst above it, so completely may the fingers of the two hands seem to come together.

Usually this is regarded as a probable sign of pregnancy and it is said that cystic tumors of the uterus, or softening from other causes, may produce it. Yet, Hegar himself regarded it as a positive sign of pregnancy and probably no one can remember any case in which this first sign of Hegar was typical where pregnancy was not present.

The mechanics of this sign, as also of the second, will explain why it is practically impossible, and at least very highly improbable, that either of these signs should be duplicated by any other condition of the uterus. It is true that some degree of softening and compressibility of the lower uterine segment can and does occur in many other conditions, in fact it is found before each menstrual period, but the compressibility is always limited. It is further true that in some cases of pregnancy, due to complications, the signs may not be absolutely typical so that a negative finding here will not definitely rule out pregnancy. This, however, does not alter the fact that the presence of Hegar's first, second, or both signs is a positive sign of pregnancy.

Let us consider the mechanics of the production of these signs, taking up Hegar 1. It may at first seem that the general softening of the uterine substance in pregnancy is responsible for the compressibility found in the lower uterine segment. There is, however, more than that to be considered. Fig. 2, A, may represent the normal pregnant uterus. Now, if we compress the lower segment, not only are the soft walls compressed, but the amniotic sac is pushed up,

bulging the upper uterine body as shown in Fig. 2,*B*. This can happen only because the following factors are present: (1) Thinning out of the uterine walls; (2) softening of the uterine walls; (3) an encapsulated fluid content of the uterus. The last factor is the most important. The greatest compressibility is, therefore, pro-

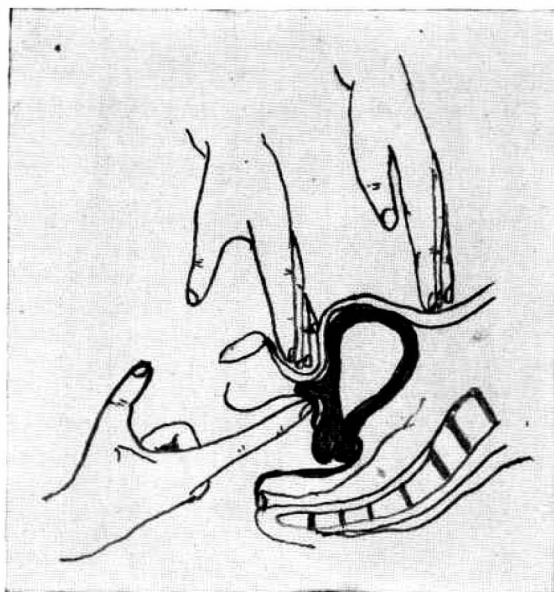


Fig. 1.—Method of demonstrating Hegar's second sign of pregnancy. The uterine wall is shown solid black. The index finger of the right hand of the examiner is pushing up the vaginal wall. Between his two hands is the fold of the anterior uterine wall. The hand of an assistant is preventing the uterus from escaping backwards.

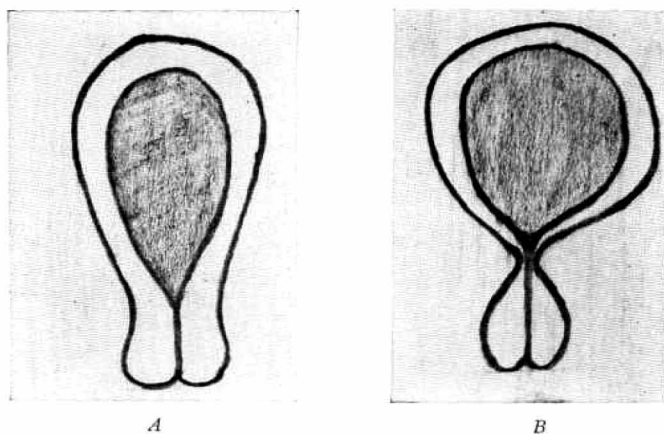


Fig. 2.—The shaded portions represent the amniotic cavity. In *A* is the pregnant uterus in its normal state. In *B* the lower uterine segment is compressed. Note the shortening of the long diameter of the amniotic sac and the bulging of the corpus uteri above the point of pressure.

duced not by compression of the uterine walls, but by the moving out of the way of the amniotic fluid. That is, the uterine wall is movable to some extent on its fluid content and, furthermore, the soft, enlarged, musculo-fibrous bundles

which run more parallel in a pregnant than in a nonpregnant uterus, move upon one another.

If we have a hyperemic enlarged uterus the walls are thicker, not thinner, as in pregnancy and we can indent the wall but never bring out examining fingers practically into direct apposition.

Again, a cystic uterus, even granted we have softening and thinning of the walls instead of a fibrosis as is usually the case, will not give a typical Hegar first sign. In the presence of a cyst, the size is determined by the pressure of the fluid in it; therefore, its walls are more or less tense and it cannot be compressed to the extent of a pregnant uterus, because the uterine walls themselves form the cyst wall and the fluid has no place to escape. If, on the other hand, the fluid contents were not under much pressure, then the uterine walls would immediately contract down upon the fluid and so become thicker and less compressible or, if the walls were very thin and had lost their contractility, the uterus would sag, in which case pregnancy would hardly be simulated.

The important factor in the mechanical production of this sign of pregnancy is that the uterine wall moves on and over the wall of the cyst within.

The mechanism of Hegar's second sign is absolutely identical with the mechanism of the first, except that it is still more evident that we require as a prime requisite an encapsulated fluid content over which the softened uterine wall can move.

Of course, it is possible to conceive conditions, other than pregnancy, which would mechanically satisfy all the prerequisites on which both of Hegar's signs depend, and insofar it is theoretically correct to call both of the signs described only probable signs of pregnancy.

Practically, however, such conditions must be so extremely rare that I believe we can safely agree with Hegar and his pupils in stating that the presence of these two signs in their typical form spell pregnancy and nothing else.

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