

AN
INAUGURAL DISSERTATION

ON

The signs of pregnancy

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BY

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While it would be more in accordance with the conventional usage, to consecrate this to the Prof. of Obstetrics I throw aside all such feelings of partiality, individuality; and dedicate it, to the Faculty, of the University of Nashville, as a slight token of my profound respect and esteem, for them, as gentlemen and Professors. And only would, that I could contribute something more imperishable, than this disintegrated essay.

The importance of being able to distinguish correctly, between pregnancy and disease, is sufficiently obvious. Consider for a moment, what an unenviable position, that of the Practitioner - who believing in the existence of acites, ovarian tumor, or any disease of the uterus - pursues for weeks, perhaps for many, dragging, painful months to the patient - an energetic plan of treatment which always fails to give that relief, so earnestly desired. Notice him as he watches with breathless anxiety over the last pale flickerings of the expiring taper, as he thinks - when lo! there meets his trembling con-

science, suddenly, the sad trophy
of his morbid blindness— a dead,
mutilated, foetus— the palpable
result of his own unpardonable
ignorance; or even by the birth,
at the full term, of a living
child, which has most miracu-
lously struggled through its un-
noticed existence; while the poor
mother, less fortunate, has been
cruelly tortured— in worse than
the inquisitorial fires— by the pe-
rverseness officiousness of her sym-
pathizing Doctor. And again the
honor; and consequently, the hap-
piness, of a female; the peace of
families and of neighborhoods may
depend upon his knowledge; his
decisions. ^{Altho} then, how important that

every Physician should have in his possession all the signs connected with pregnancy.

Before detailing the signs of pregnancy, it may be necessary to notice briefly the anatomical structure of the uterus. This organ is composed of three tunics; an external or serous coat which is reflected from the peritoneum, on the sides of the organ constituting the broad ligaments; of a middle or muscular coat, which gives thickness to the uterus; of an internal, the mucous coat, which covers interiorly its whole extent; and is continued to the Fallopian tubes and vagina. In the unimpregnated state, the muscular coat offers great

resistance, owing to its peculiar condensed texture, and appears to be composed of whitish fibres. In the impregnated uterus, the fibres are of a larger size, and more distinctly seen than in the other condition. This organ is abundantly supplied with blood-vessels; but is not known as yet, whether it is supplied as bountifully with nerves. "When perfectly healthy and quiescent, the uterus measures in the adult woman - about two inches, or two and a half inches, in length, from its lower orifice to the middle of its fundus externally, nearly two inches in its greatest breadth between the Fallopian

attachments on each side; and about an inch and a quarter in the thickness antero-posteriorly. Its cavity is triangular in form, and small in dimensions; the walls are in contact, or nearly so; it is smooth and contains nothing, but a fine halitus, or vaporous fluid exhaled from the mucous membranes; except at the cervix, which contains under some circumstances, a small quantity of mucus, of a glairy consistence; secreted by this portion of the organ.

But as the external part of the neck, and the mouth, are the only parts that can be brought under ocular examination during life; they are, therefore, the only

parts, of practical importance,
which deserve our attention.

These parts present the appearance of a compressed mammillary projection, the size of a large nipple, thicker above than below, having a truncated extremity with a transverse fissure, each end of which in the vagina in uterus is turned slightly backwards; very closely resembling in fact, the aperture from which it derives its name of *ostium*. This fissure is bounded behind and before by the labia, of which the anterior is considerably thicker and more rounded than the posterior. Their opposing surfaces are maintained in close

contact." The os presents a linear appearance slightly compressed in the middle; looking transversely, as we have already noticed; while the neck is firm, and resisting to the touch.

After successful copulation the uterus begins to manifest those changes which are necessary for the impregnated ovum. From this time the womb begins to enlarge, first in its structure, and then the cavity. This enlargement is slow but uniform until about the fourth month, the books tell us, but after this time, and during the whole progress, the change is much more rapid.

This organ is of a pyriform s-

hape, with its fundus directed upwards, and being retained in situ, by the broad ligaments, while the apex is looking downwards and resting upon the rectum. During the earlier months of pregnancy it preserves to a great degree its characteristic form; but during the latter months of gestation the cervix becomes almost obliterated, and is merged into the general cavity; which assumes almost a spheroidal, or rather, spherical form.

According to an astute observer, the lower part of the uterus will be found, about the third or fourth week of pregnancy; to have descended in the pelvis, and to be resting on the rectum, in the hollow

ow of the sacrum. This phenomenon
or may be owing to the augmen-
tation of its volume, or its increase
in weight might cause it to gra-
vitate to that point. Though the
latter supposition is hardly tenable;
when we consider that at a
much later period, in the prog-
ress of utero-gestation; and when
the organ has increased in weight,
-progressively- that it ascends into
the abdominal cavity. Reasoning,
therefore, a fortiori, we are led
to the conclusion that this des-
cent is owing to the increase of
bulk, which meeting with resist-
ance, from the unyielding condi-
tion of the parts is made, so to
speak, to rebound.

When the uterus has grown sufficiently large to fill entirely the cavity of the pelvis, its pressure upon the viscera, in the immediate proximity is very considerable, so much so, as to interfere materially with their essential functions. The rectum suffers greatly from this cause; the gravid organ presenting a mechanical impediment to the passage of feces; thus there may be an enormous accumulation of fecal matter in the intestines. But instead of this constipation, we sometimes have the converse; such as affections of the bowels simulating dysentery. There is also great irritability of the bladder, occasioning frequent micturitions, or

there may be retention of urine instead of this. There is nausea & vomiting, dependant upon the sympathetic relation existing between this organ and the stomach; and a host of other symptoms almost innumerable superadded to these.

The uterus remains in the cavity of the pelvis until about the fourth month; after which time the fundus may be easily felt, in thin females, just above the symphysis pubis; about the fifth month it ascends as high, as midway between the pubes and umbilicus; and gives a peculiar fullness and roundness to the inferior portion of the abdomen. After the sixth month it reaches the um

lilicus, this which before was marked by a considerable concavity, is now protruded, and some instances projects far beyond the abdomen.

During the seventh it ascends midway between the umbilicus and scrobiculus cordis; at the end of the eighth month it reaches the ensiform cartilage, and fills the abdomen. During the ninth month it is somewhat increased size, though descends a little.

It is proper to remark here, that at the fourth month of pregnancy; when the fundus of the womb is just above the pubes; there is usually felt some movements of the foetus in utero; this phenomenon is called quick-

ning. This sensation is at first very feeble, and though slight, is often accompanied by sickness of stomach, and faintishness, or even syncope. Though this sensation after a period becomes more manifest, so that the movement of the extremities are distinguishable. These movements of the foetus can be felt by placing the hand, cold, upon the abdomen. At first, this sign is uncertain, but at an advanced period, it is one of the unequivocal signs.

We shall next notice the changes the os tinea undergoes. It is stated that during menstruation, the labia uteri, are in a state

of high vascular turgescence, and the os tincae although elongated, and having its boundaries somewhat relaxed, was nevertheless dilated and linear, except during the escape of the small menstrual clot. At the time of conception, the parts are thrown into a precisely similar condition; but no fluid escapes to relieve the turgescence; which consequently, continues to increase. The tincaeform, or linear, appearance which characterizes the unimpregnated uterus, undergoes a complete metamorphosis. The os now assumes an irregular, or elliptical form, sometimes rounded, or circular, and is dilatable. The labia are perm-

anently separated; but in the unimpregnated organ, the labia are in close apposition, and their margins smooth and unindented. The cervix uteri, during its whole length seems to be expanded; from an early period of pregnancy; described as being about the size of an ordinary writing quill. It retains this size until within, about one month, of the completion of the term; when it merges into the general uterine cavity. There is another thing, here, worthy of notice; there can be seen from an early period, after conception, a gelatinous plug which occupies the os, and seems to distend it;

though this plug is continually being replaced by a new secretion which is going on, while the old proteus descends, and is dissolved in the vaginal mucus. This secretion is so small and insignificant as to be hardly noticeable by the patient. The manipulator may be led astray, here, if his examination be made, during the reparation of this plug. As we have already stated; the cervix undergoes a great change. The transformation discovered by tactile examination is very obvious; instead of that hardness and resistance of the parts, we have now a somewhat swollen condition of the organ, though it is soft and

elastic to the touch.

Now the only positive proofs of the existence of pregnancy are those afforded by the movements of the foetus in-utero, communicated, either by the sense of touch; as before described; or by means of auscultation - the ear applied immediately to the abdomen; or through the interposition of the stethoscopes. The information elicited by this means is unequivocal.

The first sound, placental - has been variously designated as the *souffle placentaire*, *bruit placentaire*, *utero-placental murmur*, *placental bellows sound* &c.

This sound can be detected over

the site of the placenta; and is occasioned by the circulating current through the placenta; as some Authors have maintained - while others attribute it to the uterine sinuses; it is in all probability, from both sources.

This sound is synchronous with the systole of the Maternal heart, and may be heard about the fourth month of pregnancy - though it may be heard at a much earlier period; sometimes it can be detected just before quickening.

When perfectly audible, and unconnected with any disease of the organs; it is an unerring sign of pregnancy.

The next sound that attracts

our attention is called, learnedly,
the *bruit-du-cœur-foetal*, doubt=
le *batterment*, etc. A sound prod=
uced by the diastole and systo=
le of the heart-foetal. This
is different from the *bruit-
placentaire*; and consists in
a rapid pulsation of the foetal
heart; which has been compared
to the ticking of a clock hung
a little out of equilibrium. The
pulsations are much more frequen=
t than that of the mother;
being about 140 to 150 a minute.

The situation in which the
foetal heart is heard most di=
stinately, is about the middle,
or inferior, abdominal region; m=
ore frequently on the left, than

on the right side. This sound is heard about the middle of the fourth, or beginning of the fifth month; and is a positive sign, that the woman is en-
cinte.

Another valuable, though equivocal sign, is obtained ^{by} percussion, or ~~percussion~~, or ballotement. This consists in placing the index finger of one hand on the uterus; it being introduced into the vagina, while the other hand is applied to the abdomen; then slightly jerking upwards the point of the finger; something will be felt to recede from that point, if the woman be pregnant, and will in a few moments descend

again. By this gentle operation the foetus is made to ascend, and then being heavier than the fluid in which it floats it falls back again.

At a very early period of pregnancy - say about two months after conception - there is slight, but manifest, tumescence of the mammary glands accompanied by lancinating pains of the organ, shooting from its centre to the epigastrium; and also to the axillary region and shoulder. As pregnancy advances this tumefaction becomes more obvious; and occasionally towards the latter months of gestation the gland secretes a small quantity of milk. The most important sign connected with this organ;

and the one about which, authors have been so clamorous, is the areola which surrounds the nipple. At an early period of conception this assumes a dark color; and its intensity is dependent upon the complexion of the female; being very dark in those whose complexions are so, and the converse in them who are fair. It may be proper to remark, that this discoloration is slight at first, but becomes darker as pregnancy advances. The papilla at the same time becomes enlarged and irritable, and the sebaceous follicles surrounding it, are also unusually developed, and secrete, as Prof. Watson has remarked, if I mistake not a sero-lactiferous fluid.

This metamorphosis is an invaluable sign, in the primipara; though looser somewhat, its importance in ^{those} who have previously borne children; as this characteristic hue remains, after the first pregnancy, through life; though it is visibly increased, during each succeeding pregnancy.

The changes which the skin and parenchymatous texture undergo, are very marked. The general tendency is to emaciation; the adipose tissue is absorbed; the eye balls are sunken in their sockets; the cheeks fallen; the nose pinched; the skin which was fair and beautiful, has lost its freshness and elasticity; and the countenance

wears an expression of great anxiety. With the advance of pregnancy, the skin becomes more attenuated, until the superficial veins can be very easily traced.

Changes of the fluid products of the body are also deserving of attention. The quantity of the circulating fluid is augmented commensurate with the increased demand. The pulse is consequently accelerated; accompanied with an irregular distribution of animal heat. Blood drawn at this time exhibits a marked increase of fibrin. This may be detected a few weeks after conception.

Suppression of the catamenia is rather an auxiliary sign, though

worthy of some notice. It was once
looked upon and is now with the
ignorant as an unequivocal sign
of pregnancy; but enlightened in-
vestigation has robed it, of its
unmerited laurels. Menstruation, as
a general rule, is absent during
pregnancy and lactation; though
there are exceptions to this rule.

Extraneous causes, strongly impu-
essing the system; such as cold,
damp air &c, may suspend this
function, and then we have a
state simulating pregnancy, so
far as the suppression of the me-
enses are concerned. Causes which
act within the body; as disease of
the uterus, disorders of the chylo-
poietic viscera &c &c. ^{app} We have some

rare cases, where menstruation has never existed, and yet it was unconnected with any disease whatever. And there are also, other anomalous cases, where menstruation has only existed during the term of gestation. Though this may be accounted a valuable sign - the suppression of the catamenia - when it occurs without assignable cause; the female progressing the child bearing aptitude; and being entirely free from any local or constitutional disease.