

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*The Increased Length of the Cervix Uteri after Labour, and in other Conditions.* By J. MATTHEWS DUNCAN, M.D.

(Read before the Medico-Chirurgical Society of Edinburgh on 20th January 1869.)

THE elongation of the cervix uteri under mere mechanical traction is well known, and I allude to it only in order to say that I am not here about to consider elongation of this kind. Examples of elongated cervix, from the uterus being drawn upwards, are familiar to gynæcologists; as also are examples of elongation from traction downwards, the hypertrophic elongation of the supravaginal portion of the cervix, described by Huguier. Besides, there is the well-known hypertrophic elongation of the infravaginal portion of the cervix.

I wish now to describe a remarkable and quite unexplained condition of the cervix uteri, found after delivery, and in some diseases, especially fibrous tumour of the uterus. This condition is a greatly increased length of the cervix, as measured by the only good means of measuring, namely, the extent of the arbor vitæ.

In order further to illustrate the subject, I may describe a uterus now before me, and for which I am indebted to Professor Turner. It is the uterus of a woman very recently delivered, and Professor Turner kindly showed it to me as a remarkable example of the greatest possible distinctness, even to the naked eye, of the mucous membrane covering the internal surface of the recently evacuated uterine body, and continuous with that of the cervix. The whole uterus is $7\frac{1}{2}$ inches long. The cervix, as measured by the length of the arbor vitæ from above downward, is $2\frac{3}{8}$ inches long; a much greater length of cervix than this part attains under any other healthy condition.

In the *Edinburgh Medical Journal* for September 1863, I called attention to this condition of the cervix in the following words:—“The conditions of the cervix during labour, and shortly after delivery, especially its elongation from above downwards, do not naturally come to be considered in this paper (on the cervix uteri in pregnancy). But they call for the attention of obstetricians, with a view to the completion of the history of this interesting part.”

Since this passage was written, the subject has attracted the attention of Eduard Martin and of P. Müller.

In the work of Eduard Martin, entitled "Die Neigungen und Beugungen der Gebärmutter nach vorn und hinten," published at Berlin in 1866, some details on this subject are casually given without remark. He describes the uteri of seven recently delivered women, and gives the measurements of the cervical canals. The points of these seven cases, bearing on the subject under discussion, are given in the following table:—

No. of Case.	Length of Cervical Canal.	Time of Death after Labour.
1	3 inches.	1 hour.
2	2 $\frac{1}{4}$ inches.	2 $\frac{1}{2}$ hours.
3	3 $\frac{1}{2}$ inches.	1 hour.
4	3 inches.	48 hours.
5	2 inches 6 lines.	80 hours.
6	2 inches 6 lines.	12 hours.
7	2 inches $\frac{1}{2}$ line.	1 $\frac{1}{2}$ hour.

P. Müller gives (S. 126) a single measurement, from a case of death, on the fourth day after delivery, with placenta prævia, where the cervix was two inches long. It is to be found in his elaborate paper, entitled "Untersuchungen über die Verkürzung der Vaginalportion in den letzten Monaten der Gravidität,"¹ published in 1868.

The cervix uteri, elongated as it is after delivery, contrasts, in relaxation and thinness, with the cervix uteri elongated in cases of fibrous tumour, when it is tough and thick.

It is worth while to remind obstetricians, who may be studying the question of the site of hour-glass contraction post partum, that a deceitful feeling of hour-glass contraction may be given to the examining finger by the change, which Martin has well pointed out, from thinness and relaxation of the cervix to thickness and comparative hardness of the body of the uterus; and that further deception as to the site of contraction may arise from not keeping in mind the point considered in this paper, namely, the increased length of the cervix. I can easily understand an observer, ignorant of these two points, boldly yet erroneously asserting the existence of hour-glass contraction in the body of the uterus, a condition whose occurrence some authors have denied.

It is probably at the union of the cervix and body of the uterus, that the partial uterine inversion, the inversion of the cervix, takes place, which I have figured and described (*Researches in Obstetrics*, p. 381) as not of rare occurrence.

I have before me two cases of embedded fibrous tumour of the body of the uterus. In one the diameter of the globular tumour is about 3 $\frac{3}{4}$ inches, and the length of the hypertrophied arbor vitæ is

¹Separatabdruck aus Scanzoni's Beiträge zur Geb., etc. Band V. Heft. 2.

$1\frac{1}{2}$ inch; in the other the diameter of the tumour is $2\frac{1}{4}$ inches, and the length of the hypertrophied arbor vitæ is $1\frac{3}{4}$ inch.

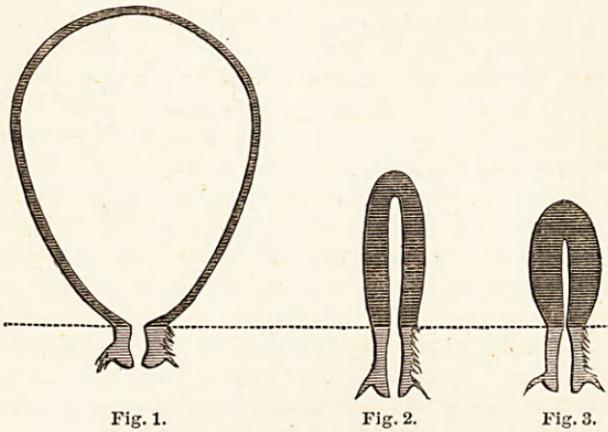


Fig. 1.

Fig. 2.

Fig. 3.

I have thus, as my chief object in this paper, shown the effect of labour on the cervix uteri, and contrasted this with the effect of labour on the body of the uterus. The latter is, as a result of the evacuation of its cavity, contracted in all its dimensions; and its walls are much thickened and consequently hardened. On the other hand, the process of labour produces opening up or dilatation and general enlargement of the dimensions of the cervix; and after labour is over it is found to be thinner and more relaxed than before labour, enlarged, and especially increased in length from above downwards.

Measurements of a body, so soft and yielding as the cervix uteri is, both before and after delivery, cannot pretend to minute exactness, because the measurement may be easily somewhat changed, even by a change of position of the part measured. But there need be no hesitation in asserting that the cervix uteri after labour is, as a general rule, more than an inch longer than it is before labour. For comparison with the measurements given in this paper, I may refer to my own post-mortem measurements of the cervix before labour,¹ and to P. Müller's less trustworthy measurements during life by his metrauchenometer.²

¹ See my *Researches in Obstetrics*.

² See his paper already referred to.

Description of Woodcut.

In the three figures the dotted line cuts the uteri at the position of the os uteri internum, or the internal os of the cervix.

Fig. 1 is a diagram of the uterus and its cervix in advanced pregnancy.

Fig. 2 is a diagram of the uterus and its cervix shortly after delivery; the body of the uterus being in a state of passive contraction.

Fig. 3 is a diagram of the uterus and its cervix shortly after delivery; the body of the uterus being in a state of active contraction.