

to examine the ear and to test its functions accurately. V. When a man has acted as fireman for a long time, his promotion to the position of engineer should demand especial precautions in this respect. VI. When his definite appointment has been made, he should be warned that his occupation *may* injure his hearing, and that he should present himself for examination when he notices the slightest defect in this respect. VII. The physician should be sworn to report every case of deafness in firemen or engineers to the superintendent of the road. VIII. The hearing of engineers and firemen should be tested at least once in every two years, so as to avoid all possible danger; perhaps oftener in those who run on tunnelled roads.—*Edinburgh Med. Journal*, May, 1881, from *Zeitschrift für Ohrenheilkunde*, vol. ix. No. 4, p. 379.

## MIDWIFERY AND GYNÆCOLOGY.

### *Gastrotony in Extra-Uterine Pregnancy.*

The propriety of opening the abdomen and removing the fetus in cases of extra-uterine pregnancy is one of those questions which recent advances in abdominal surgery make it necessary to reconsider. The examination and comparison of cases recorded before the introduction of antiseptic precautions, led those who had most carefully considered the matter to the opinion that it was best to refrain from interference until the sac had suppurated and become adherent to the abdominal parietes; that abdominal section before this time brought with it a greater chance of harm than of good. Since then, many writers and speakers have urged—pointing to ovariectomy as an illustration—that the abdomen ought to be opened early; that with practice, and antiseptic precautions, the results would be quite different from what they have been.

This question has been carefully considered in an able article by Professor LITZMANN, of Kiel.<sup>1</sup> He objects to the earlier statistical tables, on the ground that the cases included in them have not been sifted with sufficient care. His own opinions are based on a collection of forty-three cases, every one of which is recorded in full detail. In ten of these the operation was performed before the death of the child. In favour of operating before the child dies, there are two reasons commonly given—first, that the mother will probably be in fair general health; second, that there is a chance of safety for the infant.

Too much importance must not be attached to the former consideration, because few women go to the end of an extra-uterine pregnancy without some disturbance of health—*e. g.*, slight local peritonitis, hemorrhages, etc. The great source of danger in operating at this time lies in the fact that the placental circulation is still being carried on. Attempts to separate and remove the placenta at the time of operation end in disaster, even if the attempt itself be successful. And if the opening of the sac and extraction of the fetus be accomplished without disturbance of the placenta, and this be left to spontaneously come away, there is still much risk, for this process is always one of molecular disintegration and sloughing, and is often attended with severe hemorrhage. And the prospect of saving the child is not so very hopeful as it might at first seem; because in extra-uterine pregnancy the child is often imperfectly developed. Out of the ten cases collected, five of the children died within twenty-four hours.

In considering the question of gastrotony after the death of the child, it is necessary first to study the processes which attend and follow this event. After the death of the child, the liquor amnii begins to be re-absorbed; it also becomes

<sup>1</sup> Archiv für Gynäkologie.

thick, and dirty-red, gray, or brown in colour, from mixture with meconium and blood-pigment. So long as the membranes are entire, putrefaction does not take place, although, if the sac should be closely connected with the bowel, there may be fetor and the evolution of gas. While this is going on, the health of the mother suffers: there are loss of appetite, vomiting, diarrhoea, slight fever, and wasting. But the point upon which the greater or less risk of operative interference hinges is, the changes which take place in the placenta. These, of course, consist first of all in arrest of the circulation and obliteration of the vessels. But it is very difficult to say how long this takes. In some cases, at periods of ten weeks and upwards after the death of the child, it was found possible to separate and remove the placenta without difficulty and without hemorrhage; while in others, in which quite as long a period had elapsed, dangerous hemorrhage followed attempts to do this. In one case, in which the operation was performed four months after the cessation of fetal movements, thirteen days after the operation, when the elimination of the placenta was nearly complete, an attempt to remove a piece of it produced fatal hemorrhage. These cases show that it is not possible to fix any time by which the placental vessels will have been obliterated, and there will therefore be freedom from risk of hemorrhage in dealing with it.

These considerations lead Dr. Litzmann to the following practical conclusions: He holds that the great maternal risk inseparable from gastrotomy when the child is living, and the placental circulation still being carried on, together with the doubtful prospect of saving the child, should make us, as a rule, decide against this operation, except in cases in which the pregnancy appears to have passed the tenth (lunar) month, and it can be ascertained by examination that the child is not only living, but large and strong, and that the placenta is not in the situation in which the incision will have to be made. In the absence of these indications, Dr. Litzmann's treatment would be expectant: attention to the general health, to nutrition, and the different bodily functions; and if peritonitic symptoms or expulsive efforts should supervene, complete rest, with narcotics, etc.

Should rupture of the sac take place, Dr. Litzmann thinks there is little to be gained by operation. The chance of saving the child is, of course, less than if rupture had not taken place. The advantage, that after the abdomen is opened it can be emptied of the effused blood and foreign matters, he considers more than counterbalanced by the greater peril that, by disturbing the parts, clots will be dislodged, pressure removed, and thus bleeding may be increased, or re-excited if it have ceased. Treatment, therefore, at this period should be expectant, abdominal section being deferred until there is reason to think that the placental circulation has entirely ceased. The exception to this rule is in cases in which signs are present that indicate putridity of the contents of the sac. In that event it should be evacuated without delay.

Unfortunately there are no sure criteria by which we may tell whether the placental vessels have become obliterated or not; and this is the point upon which the main risk of the operation hinges. If a *souffle* has at one time been heard over the tumour, its subsequently ceasing to be audible may give some hope that the placental circulation has stopped. If we wait five or six months after the death of the child we may by that time reasonably hope that the placental vessels will have become closed; but short of that period we cannot tell what their condition may be. Dr. Litzmann advises that the operation be not deferred beyond the time mentioned, for the patient's general condition will from day to day be deteriorating; the risk will therefore be rather increased by longer waiting.

Dr. Litzmann's conclusions may be taken, we think, as representing the present state of our knowledge on this subject, and at present his conclusions as to practice are sound. Nevertheless, we hope that advancing knowledge and surgical enterprise may soon oblige us to reconsider the accepted conclusions on this point. We hope that those who deviate from the safe and customary line of practice will be careful to publish in detail the results of all their cases.—*M. d. Times and Gazette*, May 21, 1881.

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#### *Inversion of the Uterus.*

Dr. ATTWILL, at a recent meeting of the Obstetrical Society of Dublin (*British Medical Journal*, April 16, 1881), read a paper on this subject, in which he treated of its causes, symptoms, and treatment. There were no affections of the uterus in which errors of diagnosis were more frequently made. In four out of five cases which had come under his observation, the existence of inversion was not at first suspected; and in three of them, an attempt was made to remove the tumour, which was supposed to be a polypus, the operation being in each case stopped on account of the pain which the action of the *écraseur* caused. He doubted the correctness of the statement made by Dr. Barnes, that a large majority of cases of inversion followed immediately on delivery.

Of the five cases which he took as the test of his communication, only two occurred after delivery; in the other three, it was due to the presence of a fibrous tumour attached to the fundus of the uterus; moreover, the tumour was in each case sessile, and attached very nearly at the centre of the fundus uteri. He had never seen inversion caused by a pedunculated tumour, or by one attached elsewhere than at the centre of the fundus. So also he had found that, in those cases in which inversion occurred immediately after the conclusion of the second stage of labour, and in which the placenta remained adherent till after the accident had occurred, it was invariably attached to the very fundus. He, therefore, concluded that, "in all cases of inversion of the uterus, whether induced by the presence of a tumour, or occurring as a sequence of labour, the condition was the same in both to this extent, a body, which to all intents was a foreign body, was attached to that part of the uterus which lay between the opening of the Fallopian tubes."

He dissented from the views of those writers who held that the inversion occurring immediately after delivery was due to the weakened condition of the uterine wall at the site of the placental attachment, so long as the placenta remained adherent; and, from the record of cases in which the placenta was found to be adherent after inversion had taken place, it was evident that the inversion frequently—and, in his opinion, probably always—must at least have commenced before the placenta was separated from its attachment. The same remarks applied to tumours of the uterus; nor could he believe that their weight had any real effect in dragging down the fundus. In the case of fibroids, therefore, a further cause, viz., the occurrence of expulsive uterine contractions, was requisite to induce inversion. The fundus was that portion of the uterus most susceptible of irritation, and any foreign body brought into contact with the fundus speedily excited contraction. The presence, therefore, of a tumour attached to the fundus centrally, or of the placenta similarly located, might fairly be presumed to have a tendency to induce expulsive uterine action, which, failing to detach and expel the tumour or placenta, ends in depression and inversion of the fundus; but, for this to occur, he deemed it necessary that the tumour should spring from the fundus, or, if it occurred after parturition, the placenta should be attached nearly centrally to the same portion of the intra-uterine surface.

In reply to the objection which might be raised to this theory of the cause of