HERNIA OF THE DIAPHRAGM AS A COMPLICATION OF LABOUR

BY

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Diaphragmatic hernia in the parturient woman is probably not excessively rare. The lack of references to such cases in the medical literature therefore seems remarkable, especially as regards prognosis, of which I can find no mention. Even Browne's (1944) comprehensive book does not include this complication of pregnancy. A practitioner faced with a radiograph showing a large hernia through the diaphragm in a woman nearing term cannot be blamed if he feels somewhat apprehensive as regards labour, with the additional strain and pressure which will accompany the pains, and he may be tempted to perform a quite unnecessary caesarean section. I have had two cases of large diaphragmatic hernia and one of eventration of the diaphragm under my care during their confinements, and I feel that the publication of a brief note may prove helpful. These cases were seen before September, 1939, and the clinical notes are scanty and incomplete, as the original hospital case sheets cannot be traced.

Case Reports

Case 1.—This patient, aged 21, had had one previous confinement without complications. The weight of the child was not recorded. She was well till the thirty-sixth week, when dyspnoea on the slightest exertion and occasional vomiting started. A radiograph of the chest demonstrated a large diaphragmatic hernia on the right side, with the greater part of the stomach bulging into the thorax through the diaphragm. There was no obstetrical abnormality and the head was deeply engaged. It was decided to induce labour prematurely, and surgical induction by puncture of the membranes was performed at the thirty-eighth week. Pains started soon afterwards. Morphine, 1/6 gr. (11 mg.), hyoscine, 1/150 gr. (0.43 mg.), and paraldehyde, 6 dr. (21 ml.), in olive oil were given per rectum during the course of labour. A child weighing 6 lb. 4 oz. (2.9 kg.) was delivered naturally twenty-two hours after rupture of the membranes. Slight dyspnoea was evident at times during the second-stage pains, but was not severe enough to cause anxiety or require treatment. There was no cyanosis. Immediately after delivery vomiting was troublesome and continued for four days. Attacks recurred during the remainder of the puerperium unless meals were kept dry and small. Eventual recovery was satisfactory and further symptoms are not recorded. Surgical treatment for the hernia was not advised.

Case 2.—This patient, aged 36, had had two previous confinements, which according to her statement were uncomplicated. A radiograph of the chest was taken late in pregnancy after complaints of shortness of breath. This revealed a very large diaphragmatic hernia on the right side, reducing the thoracic space on that side to what appeared to be an alarming degree. The patient was admitted to hospital and put to rest, when labour started spontaneously. The first stage was quick and caused no abnormal symptoms. Second-stage pains, however, caused considerable distress, with dyspnoea, and at times slight cyanosis. Oxygen was administered during the pains throughout the second stage and gave great relief. There was some delay with the head on the perineum, and the patient was delivered easily by a low forceps operation under light chloroform, ether, and oxygen anaesthesia. Recovery was uneventful.

Case 3.—This patient, aged 25, had had one previous confinement which resulted in a stillborn child weighing 9 lb. (4.1 kg.) being delivered by forceps. During the present

pregnancy she had attacks of epigastric pain and shortness of breath. Examination of the chest revealed dullness at the left base, with weak breath sounds and absence of vocal resonance. The apex beat was 1½ in. (3.8 cm.) to the left of the sternum. A left-sided pleural effusion was suspected, but a radiograph revealed a marked degree of eventration of the diaphragm, which was confirmed by screening. Labour started naturally at term and lasted five hours. There were no signs of distress during the second stage, and a child weighing 7 lb. 13 oz. (3.5 kg.) was delivered. Partial separation of the placenta and a moderate post-partum haemorrhage complicated the third stage. Eventual recovery was satisfactory.

Discussion

Diaphragmatic hernia is usually classified as congenital or acquired and true or false. A so-called false hernia has no sac. Eventration of the diaphragm and thoracic stomach, with a short oesophagus, may produce the same symptoms as a true hernia by diminishing the space available for lung expansion and oxygenation of the blood. Of the true hernia the congenital type is rare, and is stated by Richardson (1929) to occur more often on the left side. All authorities agree that the acquired type is nearly always found on the right side at the site of the oesophageal hiatus, and it is probable that Cases 1 and 2, described above, were of this variety. Such hernias are thought to be due to congenital weakness of the muscular ring of the oesophageal hiatus, allowing the sac to bulge into the right pleural cavity alongside this structure. It seems that small hernias of this description are not uncommon. Rigler and Eneboe (1935) were able to demonstrate forty-four cases of hernia in 4,200 radiological examinations, and they stated that the condition is commoner in the female in the ratio of 15 to 4. Harrington (1935) stated that routine examinations during laparotomy show that in 50% of persons no para-oesophageal opening can be felt, but in 50% two or three fingers are admitted. He regards an opening admitting up to two fingers as within normal limits. Increased intra-abdominal pressure seems undoubtedly a factor in producing or increasing the size of these hernias, and the stomach may slip in and out of the sac according to the degree of pressure and gastric tension. Ude and Rigler (1929) have observed such cases in women following multiple pregnancies, large ovarian cyst, large myoma, and ascites with malignancy. Rigler and Eneboe have also shown that small para-oesophageal hernias are by no means uncommon in late pregnancy. In 195 radiological examinations in the third trimester of pregnancy they demonstrated hernias in 12.8%—in 18.1% of the multiparas and 5.1% of the primiparas. In routine gastro-intestinal examinations they found such hernias in only 1%. Therefore it seems reasonable to presume that some degree of hiatus hernia is not uncommon in late pregnancy, especially in multiparas or in women in whom there has been a previous increase of intra-abdominal pressure from some other cause. The number of these hernias which reach proportions large enough to cause symptoms in late pregnancy or labour must be small, as it has already been pointed out that there is little mention of such cases in the medical literature. Large hernias which do not cause symptoms are, however, likely to go unrecorded unless discovered accidentally, as exact diagnosis is not possible without chest radiography. But if, as according to Rigler and Eneboe (1935), 12.8% of women have some degree of hernia in late pregnancy it seems likely that a small proportion of these may enlarge with repeated pregnancies; or, again, it is possible that any large hernia encountered is originally of congenital origin.

Symptoms.—The common symptoms caused by hernia through the diaphragm associated with pregnancy are

gastric upsets—that is, nausea or vomiting—and dyspnoea. If such symptoms occur they usually start late in pregnancy, after the thirty-fourth week. The three cases described all suffered from dyspnoea during late pregnancy, and in Cases 1 and 2 it caused some distress during the second stage of labour. In Case 1 there was vomiting in late pregnancy, which was especially aggravated after delivery and continued to be troublesome during the puerperium, probably owing to some alteration of the position and tension of the stomach after the uterus had emptied.

Treatment.—During late pregnancy the patient must rest more than usual, and if dyspnoea is not relieved should be confined to bed. Vomiting can usually be relieved by attention to the diet. Small and frequent meals of soft food or fluids may be necessary. Postural treatment may be useful, the patient herself usually finding out which position suits her best. Laxatives should be given to ensure regular bowel action. In cases with severe encroachment on the thoracic cavity induction of premature labour must be considered. A long second stage is not desirable, as the dyspnoea may increase with the pains and the patient become distressed. If, therefore, there is any reason from the history or clinical findings to suspect that labour may be prolonged, induction at the thirty-eighth week is probably the wisest course. A medical induction may be tried, and if this fails the membranes should be ruptured. If disproportion or other obstetrical complications are present caesarean section will of course have to be considered. During labour the usual sedatives should be given in the first stage. Oxygen may be necessary during the second stage and is essential if the patient becomes at all cyanosed. It should be given during the pains, and affords great relief. Low forceps delivery and episiotomy are indicated should there be the least delay on the perineum. Cyclopropane or local anaesthesia should be used.

In the puerperium careful dieting may be necessary if vomiting is troublesome as in Case 1. Vomiting usually ceases within a week as the stomach settles to its new position and gastric tension becomes adjusted.

The question of after-treatment of these large hernias cannot be fully considered here. In the majority of cases all symptoms disappear after delivery. Most authorities are of the opinion that surgical treatment is not indicated in cases of large hernia unless the sac is known to contain small gut and is therefore liable to strangulation. Morrison (see Richardson, 1929) believes that relatively few cases require operation. Treatment on medical lines should be continued if any symptoms persist.

Prognosis.—In all three cases described there was a severe degree of encroachment on the thoracic space—in two by true diaphragmatic hernia and in one by eventration of the diaphragm. The main object of this publication is to emphasize that labour may be allowed to proceed with safety under such conditions and that catastrophic effects do not occur. Whether the hernial hiatus is further enlarged as a result of labour is a matter for conjecture. Unfortunately these cases were not re-examined radiologically after the puerperium. Rigler and Eneboe, however, re-examined twenty-five cases after the puerperium in which small and moderate degrees of para-oesophageal hernia had been present in late pregnancy. They found that in only three of these cases could a hernia still be demonstrated radiologically. It seems, therefore, that though further stretching of the hiatus is probable during pregnancy and labour the hernia will retrogress as soon as the abdominal tumour is removed, and in many cases with only small and moderated degrees the condition will revert to normal. This conclusion is supported by the cessation of symptoms in nearly all cases after the puerperium.

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A NEW TREATMENT OF RHEUMATOID ARTHRITIS

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It is always difficult to prove the value of a new therapy, especially when it concerns a disease which, like rheumatoid (atrophic) arthritis, to a great extent improves spontaneously, without any treatment. The *Primer on Arthritis*, issued by the Committee of the American Rheumatism Association in 1942, contains the following about rheumatoid arthritis: "Few accurate statistics on the natural course of the disease are available, but in general it may be said that fewer than one-fourth of the patients 'recover,' one-half 'improve' or the disease becomes 'quiescent,' and the remaining one-fourth become progressively worse. . . . It is particularly important that these facts should be borne in mind when one is assessing the value of any therapeutic regimen."

According to literary data, the results of the gold, hetero-protein, and vaccine therapies are almost the same—that is, 65–75% are cured or improved and some 25–35% remain unchanged. If we compare these data with the statement quoted above, we get the amazing fact that nearly as many recover without any treatment as with treatment. This apparent paradox indicates that either all our therapies are worthless or statistics are unsuitable for assessing therapeutic effects.

Hitherto we have tested the value of a therapy by determining what percentage of a given number of cases were cured or improved. This is, however, a misleading procedure, because the number included those which healed or improved spontaneously. We can assess the value of a new treatment only by determining how many cases it cured or improved out of the "one-fourth" which did not improve either spontaneously or by the usual therapies. Should such a case improve or recover—and especially if the improvement is quick and lasting—then we can be convinced that the change is not spontaneous but a result of the new therapy. To an experienced physician it cannot be difficult to select from his patients the cases suitable for testing, and I am sure that in the cases reported below there is no doubt about their belonging to this category. I thought it necessary to raise these considerations of method before proposing a new treatment for rheumatoid arthritis.

A young woman suffering for three years from rheumatoid arthritis became pregnant. In the third month of her pregnancy she recovered unexpectedly, though until then her disease had seemed incurable. Later on I saw another similar case: the patient twice became pregnant, and in both instances her illness stopped; but after childbirth it recurred. Similar cases have been observed by others, although naturally not in great numbers, because few women in such an invalid condition become pregnant. P. S. Hench (1938) collected from American medical literature the reports on the pregnancy of women suffering from rheumatoid arthritis. He found, from 1864 onward,