RECORDS OF TEMPERATURE - PULSE - RESPIRATION - EXCRETA &c.

A CASE OF SYMPHYSIOTOMY IN EXTREME CONTRACTED OSTEOMALACIAL PELVIS: CRANIOTOMY: RECOVERY OF MOTHER.

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FOR the notes of the following case I am indebted to Miss Butler, a lady student of the College. Radhaya Narayan, a Hindu female of the Bunia caste, aged 22 years, was admitted into the Bai Motlibai Hospital on December 22nd, 1892, having been in labour since the previous day. The membranes were said also to have ruptured the previous day. The patient was a primipara. Her menstruation began at the age of 14, the type being twenty-eight days and the duration four days. The last menstruation was said to have occurred about the end of March, 1892. She had suffered from no complications during pregnancy except vomiting for the past four days.

On admission, she was found to be a very weakly, pale, emaciated woman, small and delicate, 4 feet 3 inches high. She was in an exhausted state from the effects of delayed abnormal labour.

The pregnant uterus fell over the symphysis pubis in a globular shape, and measured 13 inches from the symphysis to the summit. The pelvis was diminutive and rostrated, the external measurement being H. Cr. 8½ inches, H. Sp. 8 inches, intertrochanteric 8½ inches, exter. conf. 6 inches. The abdomen was very tender, and the patient's appearance distressed and anxious. The fetal heart sounds could not be heard; the movements of the fetal limbs could not be felt. The liquor amnii had escaped, and the uterus was in a state of tetanic contraction. On examination by the vagina, the pelvis was found to be extremely and irregularly contracted in all directions, and the opening of the brim was a mere

slit, so that the point of the finger could only just enter it,

and feel the skin of the fœtus resting over it. The presenta-

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tion could not be made out, the uterus was wholly above the

prim, and the vagina stretched in consequence, The condi-

tion was one of extreme deformity from osteomalacia occurring in a rickety dwarf.

The exhausted condition of the patient, her initial feebleness of constitution, the long duration of the labour, and the unskilful manipulations to which she had evidently been subjected by her attendants before being admitted into hospital, indicated with certainty a fatal result from Cæsarean section. The shock of the operation would have killed her. The child being probably dead was likewise a contra-indication to that operation. An attempt was made to separate the bones of the pelvis forcibly with a view to embryotomy, but failed. After consultation with Brigade-Surgeon-Lieutenant-Colonel Gray, senior surgeon J.J. Hospital, it was finally decided to perform symphysiotomy and to be guided by the further indications of the case.

After thorough antiseptic preparation, the operation was performed by making a vertical incision over the symphysis, and the joint was separated by incision with a probe-pointed curved bistoury. The bones at once sprang apart to a distance of about an inch and a-quarter. The diagnosis was made of a vertex presentation of the fetus; but the hand could not be passed through the brim without dangerous force, and the amount of room gave no hope of successful turning. It was, therefore, determined to sacrifice the remote chance of the fetus being alive. The head was perforated and extraction effected after cranioclasm by the craniotomy forceps. Before the operation the horizontal rami of the pubes were in close approximation, so that the shape of the opening of the brim was in the form of a triangle; but when the joint was cut through they separated to a certain extent, and the conjugate diameter then measured about 2½ inches. An Archimedean drill was used; but the bone close to the symphysis was softened by the disease, so it was resolved to abandon the intention of fixing the bones by silver sutures, and, on Dr. Gray's suggestion, and finding the cut surfaces of the joint could be approximated by moderate pressure, the wound was brought together by deep wire sutures passing close to the bone, with superficial sutures between them. A drainage tube was placed in the wound, which was dressed with iodoform wool, the uterus was irrigated with antiseptics, the pelvis and the thighs were put up in a binder, and the thighs and legs tied together.

She recovered from the operation well, and, although she had a good deal of pain in the pelvis and thighs, there were no bad symptoms. The temperature never rose very high. On December 28th the urine was passed four times easily in the twenty-four hours and the wound was looking well. On December 30th there were symptoms of intestinal irritation which could not be accounted for, but were cleared up by the passage of an *ascaris lumbricoides*, which may also, perhaps, throw light on the continuation of the slight rise of temperature. After the administration of *santonin* and the expulsion of several worms the condition of the patient improved. At one time there was much swelling around the right sacro-iliac joint, which extended down the gluteal region. An exploring needle was passed into it with no result, and the swelling subsided shortly afterwards under simple treatment and rest.

The patient was discharged from hospital on March 6th, 1893, and was then able to walk across the ward; the symphysis had united firmly, and there did not seem to be any tendency for the bones to yield in reaction to the body weight.

Photographs of the patient at this time—kindly taken by Dr. Gray—show the extreme deformity of the pelvis and abdomen; they did not seem to be in any way different to what was present before the operation. It is doubtful whether the crowding down of the lumbar vertebra be due to congenital non-development or rickets rather than to the osteomalacia, but there is no doubt that the extreme curvature of the sacrum and the projection of the symphysis seen in lateral view are the results of the latter disease.

It has been difficult to look favourably upon the recent revival of symphysiotomy, as it has hitherto been so widely condemned by eminent authorities as a distinctly unscientific and unjustifiable operation. I think, however, it is now becoming recognised. The case I have recorded is an example of an unusually rare occasion in which it would be applicable; in fact, it was the only way in which the patient's life could be preserved.

I have since performed another symphysiotomy on a woman who had a rickety justo-minor pelvis, the pelvic diameter being about $2\frac{1}{2}$ inches and the outlet small. The result was not so satisfactory, for the perineum and the anterior fourchette were lacerated during extraction by forceps, but the patient is doing well, and I cannot give an opinion on the ultimate results. The question whether symphysiotomy should be performed when the outlet is small must be left to the judgment of future experience.

Professor Pinard has recently reported cases in which this operation was done for true rickety contraction in which the capacity of the outlet would not interfere with extraction of the head when once it has passed the brim.

A report of these patients in the future with regard to subsequent pregnancy and labour will be interesting. The operation is not a difficult one, and, under proper precautions, its immediate effects are not serious, but it of course requires expert judgment to decide in what cases it should be done. Most of the cases of difficult labour which would come under the possibilities of symphysiotomy in this hospital owe the contraction of the pelvis to osteomalacia, which is enormously prevalent in Bombay. The contraction of the cavity and outlet which that disease produces precludes the delivery of a live child as a rule and leaves no choice except between craniotomy, embryotomy, or Cæsarean section. In the case recorded there was not even this choice. It is, I believe, historical, as I have never heard of the operation having been performed in India before. The patient has since called at the hospital, and walks as well as she did before the operation, the pelvis being firmly united.

PULSUS PARADOXUS IN ACUTE LARYNGITIS.

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My attention has of late been drawn to the occurrence of pulsus paradoxus in children suffering from dyspnoea due to acute laryngitis, whether membranous or simple. Since I

first noticed the presence of this symptom in such affections, in every case of laryngitis, nine in all, brought to the casualty room of the Birmingham General Hospital, in which the obstruction in the larynx was sufficient to cause recession of the chest during inspiration, I found that the pulse invariably became small and feeble during the same period.

As the disease progressed, the symptoms became more and more marked until just before tracheotomy was done in those cases requiring it, when the pulse was found to be almost imperceptible during inspiration.

The moment the trachea was opened and air allowed to enter freely into the chest, the pulse resumed a regularity in volume and rhythm. It was also present on admission in a case which improved in a steam tent without operation, disappearing, however, as the child got well.

Having now had the opportunity of observing the occurrence of pulsus paradoxus in several cases, and being unable to find any mention of it in connection with acute laryngitis in the English standard works on medicine, I thought it worth while to draw to it the attention of other observers who may not have already noticed it, and also to point out those points in connection with it which seem to be of most importance and likely to be of most use from a practical point of view.

The extent to which the pulse disappears during inspiration varies directly with the severity of the affection; and as the recession of the lower half of the chest also varies according to the amount of the obstruction to the entrance of air into the chest, the former symptom may be taken as an indication of the presence of the latter. A recognition of this point does away with the necessity of exposing the child's chest in a cold room. As the disease progresses and the patient gets weaker, the pulsus paradoxus becomes more marked and more persistent, although the amount of the recession may not have increased to a proportionate extent. This is probably an indication of the heart having become weaker and less able to overcome the extra amount of work, which, as I shall attempt to show later on, is thrown upon it. When the symptom becomes more marked without the recession of the chest increasing, it is an indication for operative help; for in the struggle for life which will be severe, the strength of the heart must be nursed, and all extra work for it be obviated as soon as possible.

So far I have not been able to attach any prognostic value to the condition of the pulse in acute laryngitis, nor does it seem to be of use in diagnosing between the membranous or simple varieties. The nine cases to which I have referred above were children under 2 years of age, but I have also met with the pulsus paradoxus in a boy, aged 11, suffering from laryngitis of a subacute nature, and in a man, aged 24, with obstructive dyspnoea, due to severe tonsillitis. Unfortunately I have no pulse tracings taken from laryngitis cases, owing to the difficulty in taking them from children, but Fig. 1 shows a tracing from the case of acute tonsillitis which occurred in an adult.

The variation in the rhythm and volume of the pulse during inspiration was first described by Griesinger in connection with inflammatory changes in the mediastinum, and was attributed by him to the direct action of new formed tissue adherent to the sternum pulling upon the aorta. Kussmaul¹ later on had two cases in which he found that there were no such adhesions, but that the pericardium was adherent, and he thought that this was sufficient to cause the symptoms. He applied the term pulsus paradoxus to this variety of the pulse.

At one time the symptom was considered to be pathognomonic of mediastinitis, but it has been observed in other affections. It occurs in simple pericarditis with effusion (Biermer², Traube³, etc.), in extensive pleural effusion (Meixner⁴), in mediastinal tumours (Petrina⁵), and in aneurysm of the thoracic aorta.

A diminution of the strength of the radial pulse during inspiration has been noticed by Jürgensen in acute pneumonia.⁶ In the chapter on Stenosis of the Trachea and

¹ *Berlin klin. Wochenschr.* 1873. No. 8.

² *Deutsch. Archiv klin. Med.* xiv., 653.

³ *Charité Annalen.* 1878.

⁴ *Vrtljchr. f. d. prakt. Heilk.* Prague, 1879.

⁵ *Prag. med. Woch.* No. 19, 1877.

⁶ *Croupöse Pneumonie*, Tübingen, 1883, pp. 244-45.