

ARTICLE V.—*A Difficult Face Case, Complicated with Shoulder Dystocia from an Unusual Position of the Arms.* By R. MILNE MURRAY, M.A., M.B., M.R.C.P.E., Physician Accoucheur, Western Dispensary.

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THE case, an account of which I desire to lay before the Society to-night, is one which I was fortunate to be able to watch during the greater part of its course, and it is one which was complicated by a condition which, so far as I know, has not been described by any writer. Its rarity is thus, I trust, a sufficient reason why it should be put on record.

Mrs C., aged 36, mother of eight children, went into labour at

noon, 16th December 1881. The pains continued regularly from that time, and she was seen by one of the students at the Western Dispensary at 8 P.M., at which time the os was fairly well dilated. At 11 P.M. he found it fully dilated and the membranes prominent, but he was unable to make out the presentation. He remained with the patient all night, and though the pains continued powerful and regular, he failed to recognise any progress, and at 6.30 A.M. he sent for me.

I saw the patient at 7 o'clock. She was moving about the floor during the intervals of the pains, which were severe about every five minutes. I noticed the abdomen to be unusually prominent under the sternum. Her temperature and pulse were good. She had passed urine frequently during the night. She states that she was always "big" when pregnant, but never so much so as at this time. Her previous labours had been tedious, but never instrumental, and all the children were living.

On examination I found the abdominal walls excessively tense, even between pains. The foetal body could be made out indistinctly lying to the left of the mesial line, and the abrupt prominence of the abdominal tumour under the sternum, to which it reached, was very remarkable. Firm pressure over the pubes enabled me to feel the head indistinctly. It had not engaged, and could be moved about through the abdominal wall. Careful examination failed to detect the position of the small parts of the foetus. The foetal heart was indistinctly heard on the left side.

*Per Vaginam.*—The vagina, moist and roomy, was two-thirds filled with a tense, projecting bag of membranes. Beyond this the fully-dilated os could be made out, and by carefully passing the finger through the os on the right side of the projecting bag, the tip passed straight into the mouth of the child. The other parts of the face could be made out with perfect ease. The fronto-mental diameter of the face was lying directly in the pelvic transverse, and the chin, which was directed to the right side, was, as usual, somewhat lower than the forehead. The orbits and frontal eminences could be made out with comparatively little difficulty so that the chin descent was by no means striking.

During the intervals the face seemed to rest lightly on the pelvic brim, but could be dislodged upwards with the greatest ease. During the pains the face was forced downwards upon the brim, but did not seem to enter it at any part. I observed, also, that even during a pain there was a distinct space between the sacrum and the left side of the face, while the right side seemed to lie hard on the pubis.

At this stage the question of turning presented itself for consideration. The operation, so far as I could judge, could have been performed with ease. The head was freely movable, the membranes were unruptured, the passages were fully dilated or dilatable, and the position of the foetal limbs was easily deter-

minable from the presentation and position of the head. Yet, considering that the great majority of face cases occurring in multiparæ terminate naturally, though tediously, and seeing no reason why this one should not do so, I did not feel myself justified in interfering at this stage, and concluded that it was better to allow the face to engage in the usual way, and, if necessary, to attempt manual rectification of the position later on.

At about 8.30—that is, half an hour after I first saw her—the membranes ruptured, and a very large quantity of liquor amnii escaped. This was immediately followed by a sudden descent and engagement of the face in the transverse. So far as I could make out, this diameter corresponded exactly with the fronto-mental of the foetus. The chin was distinctly lower, but the frontal surface for some distance beyond the orbits could be felt. The right malar surface was also more advanced than the other. The case was thus one simply of face presentation at the brim in the transverse, and the point of interest now lay in observing whether the chin, under the influence of the uterine action, would turn backwards or forwards. The escape of the waters was followed by an immediate and appreciable diminution of the abdominal tumour, but I noticed that the remarkable infra-sternal projection was relatively as well marked as ever.

I now set myself to watch the progress of every pain, and found that during each pain the chin performed a distinct sliding movement round the brim in the direction of the right sacro-iliac point. During the first few pains this was a movement of very limited extent; but by-and-by I found that there was a distinct difference in the position of the chin, which seemed now passing out of the transverse and approaching the right oblique. While I was observing this a sudden succession of violent pains occurred, and in spite of all my efforts to the contrary the chin slid round to the oblique, and ultimately lay impacted against the right sacro-iliac sychondrosis. Here it seemed to become fixed. I found that the frontal surface could no longer be felt, but the orbits could still be made out. The depression of the chin was thus more marked.

The case had now become a "first" or right *mento-posterior*, and this had occurred within fifteen minutes of the rupture of the membranes.

The face was not, however, so firmly jammed as to preclude the possibility of turning even at this stage; for I believe I could have passed my hand into the uterus even then. At the same time, it would have been vastly more difficult than when I saw the patient first, and after due consideration, having failed to effect rectification with the fingers, I resolved to apply forceps for the following objects:—

- 1<sup>st</sup>, To endeavour to promote flexion by seizing the occiput, if possible.
- 2<sup>nd</sup>, To prevent further backward rotation of the chin, and, if

possible, to correct the position of the latter by attempting forward rotation of the presenting part by their means.

For the purpose of seizing the occiput I resolved to apply the blades as near as possible in the left oblique, and without difficulty introduced the lower blade between the left side of the face and the posterior pelvic wall; but, owing to the impaction of the right side against the pubis, I had some difficulty in applying the upper blade so as to lock. By some care in adjusting the lower blade I succeeded in catching the head fairly well in the desired diameter, and also well back. The handles were, however, wide apart when locked, and it was obvious that the foetal face and head would be under much risk of injury from compression if vigorous traction were made. I therefore made steady traction backward, using as little compressing force on the handles as possible, and at the same time attempted careful and gentle forward rotation of the chin.

At the commencement of these efforts the head seemed to come down slightly, but no change whatever could be detected in the position of the chin with reference to the pelvic diameters. Further traction was made in the same manner, but, owing to the limited amount of compression that I felt myself justified in bringing to bear, the forceps slipped both backwards towards the chin and downwards over the head. This resulted in such an amount of separation of the shanks that the perineum and vagina were stretched to such an extent that I dreaded their laceration, and felt myself compelled to desist and to remove the forceps. This I did, and made a careful examination, when I found the face apparently a *little* lower down than before the application. The eyes and other features were still quite easily felt, and, so far as I could judge, no change whatever in the direction of forward rotation had occurred.

I deemed any further interference at this stage inadvisable, and resolved to give the case a chance of spontaneous termination, and left the patient, with instructions to examine her from time to time and note any change.

I returned at 12 o'clock, and found the state of matters exactly as I left them, the pains having continued regularly, though at longer intervals and of somewhat less power. The patient's strength was still good, and she had taken some nourishment.

At 2 P.M. I again saw her, and found her condition unchanged.

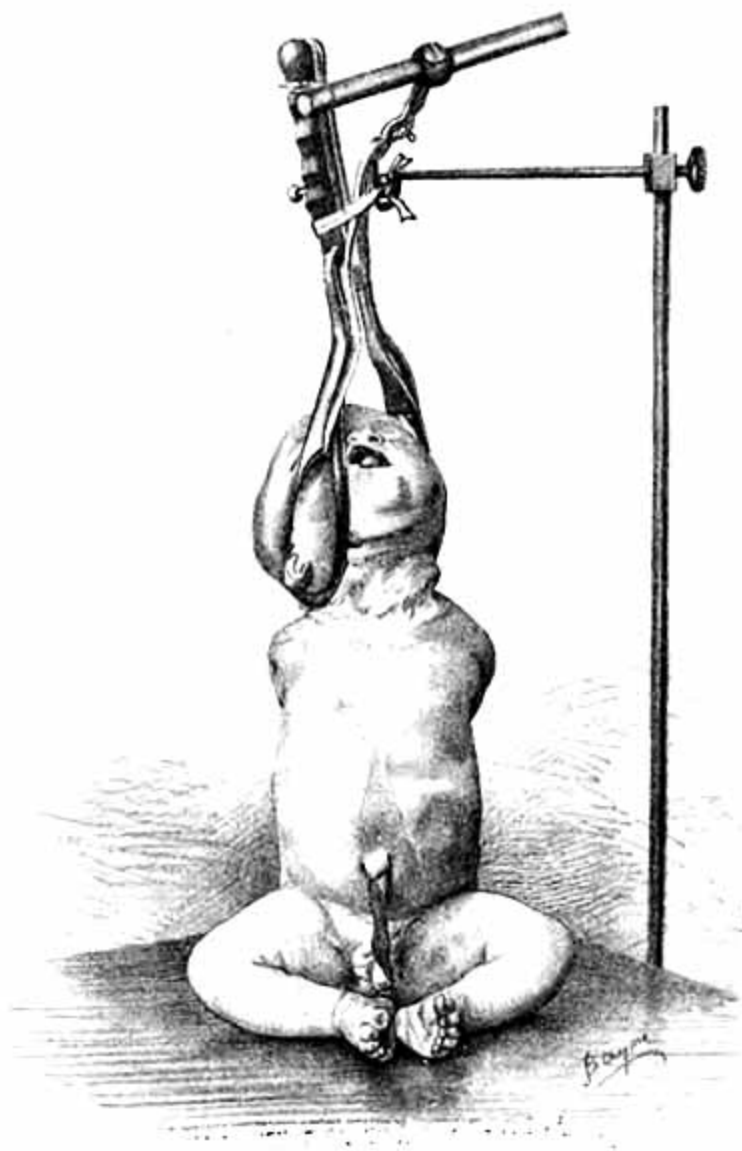
At 4.30, having summoned two more pupils from the Dispensary, I placed the patient completely under chloroform, and found, on careful examination with the whole hand in the vagina, the head and face in precisely the same position as I had left them. The features were more difficult of recognition, since an extensive malar *succedaneum* had developed on the right side of the face, bulging beyond the nose and mouth.

As labour was obviously making no appreciable progress, and as the woman was beginning to show some signs of exhaustion, I resolved again to attempt delivery or modification by the forceps.

This time I had provided myself with a set of Professor A. R. Simpson's axis-traction forceps, and I proceeded to apply them. I found the application of the lower blade as simple as before, and I had the same difficulty with the upper blade from the impaction of the head against the front segment of the pelvis; and when I attempted to compromise matters by bringing the blade a little over the face, I found the greatest difficulty in preventing the tip of the blade from slipping into the mouth. I ultimately succeeded, and the blades locked perfectly. Two hitches, however, occurred at this stage. In the first place, the instrument which I employed was one of an imperfect pattern, and was locked by means of a pin which passed through a fixed eye in the handles. But, on account of the broad, oblique grip of the instrument, no amount of pressure that I could bring to bear on the handles was sufficient to enable me to introduce the pin. The attempts were at the same time, of course, producing a corresponding amount of pressure on the head and face of the child, and it soon became obvious that the force necessary to enable them to lock must inflict somewhat serious injury on the child.

I then attempted to fix the upper traction-rod to which the bar is attached, and which I thought I could easily accomplish after the blade was applied, but the catch-hole in the fenestrum was so high, owing to the peculiar grip, that I could not reach it, and I saw that it was impossible to attach it without first withdrawing the blade. Remembering, however, the great difficulty I experienced in introducing the upper blade at first, I resolved to attempt delivery with the instrument used as ordinary forceps; but after making the utmost justifiable effort I saw that no hope could be entertained of success by this means, and resolved to withdraw the blade and reintroduce it after attaching the traction rod. This was done, and after the same difficulty as before I ultimately succeeded in getting the blades to lock. After failing to secure them sufficiently by means of tape tied round the handle, I was compelled, much against my will, to force the handles together sufficiently to let me introduce the pin.

I then employed the instrument as directed by Professor Simpson, pulling only on the traction-bar, and was surprised and gratified at the ease with which the head began to advance. The pains were still frequent enough, and every time I pulled during one the head made distinct progress. At the same time I found the chin coming round from the oblique to the transverse. After about fifteen minutes the face arrived at the floor of the pelvis, the mento-frontal diameter making its exit in the transverse of the outlet. There was no movement corresponding to extension or flexion as it passed out; it delivered exactly as it descended. When the face was passing the labia they were much stretched, but there was little tension on the perineum, and delivery took place without any laceration of it whatever. This I account for by the



FACE CASE — SHOWING GRIP OF FORCEPS.



FACE CASE — SHOWING POSITION OF ARMS

fact that the long mento-frontal diameter stretched the labia, which gave sufficiently not to tear, while the perineum was only acted on by the shorter bimalar or biparietal diameters, neither of which were long enough to inflict any injury.

When the head was fairly beyond the soft parts I removed the forceps, marking the grip on the face; and as I felt that the chances of saving the child depended to a great measure on its speedy delivery, I directed one of the students to apply pressure to the uterus, with a view of hastening the birth of the shoulders. His efforts were, however, quite futile, no progress of any kind resulting. I examined carefully for the cord or for a nuchal arm, but could find nothing to account for the delay. I then myself applied abdominal pressure, but was equally unsuccessful. Ergotin had been already administered, and the dose was repeated; and I now added a gentle traction on the head to the *vis a tergo*, and after an interval of a few minutes was surprised to find the face of the child, which had remained looking towards the mother's right hip, rotate slowly round towards and past the pubis until it looked almost completely in an opposite direction, *i.e.*, to the mother's left hip. The shoulders at the same time came down, and the *biacromial* diameter lay in the conjugate of the outlet; and when the back of the child appeared, it was found that both arms were lying as nearly as possible parallel to each other, and close together, down the back, fully extended. I allowed it to remain in this position for some few seconds, until the others had an opportunity of seeing the condition, and then withdrew the body. About 15 minutes elapsed from the birth of the head until the birth of the shoulders. The fœtus gave one or two gasps after separation; but the heart could never be felt, and all our efforts to revive it proved unavailing. The third stage was short and natural, and the patient made a good recovery.

The fœtal head presented all the marked characters of a typical face case—flattened vault, prominent right cheek, and obliquely distorted face. It weighed 10·5 lbs. The following are the measurements of the head:—Fronto-mental,  $4\frac{1}{2}$  in.; sub-occip.-breg., 4 in.; bitemporal,  $3\frac{1}{2}$  in.; occip.-frontal,  $4\frac{3}{4}$  in.; occip.-mental,  $5\frac{1}{2}$  in.; biparietal,  $4\frac{3}{4}$  in. These diameters are all from  $\cdot 75$  in. above normal.

Before concluding, I should like to remark on one or two points of interest in this case.

Firstly, as to the causation. Since the observations on the case commenced some time after labour had set in, I fear it is impossible to decide the question as to whether it belonged to the category of primary or secondary face cases; and tempting as may be the opportunity of theorizing on the subject, I do not believe that it could lead to any satisfactory result.

If it is a primary example, the explanation is probably to be looked for in the position of the arms. It seems likely that the



greater breadth of the shoulders in the attitude described than in the normal one would very materially interfere with the contact of the chin and body of the foetus which usually exists previously to labour. The lower segment of the pyriform uterus would less readily permit the descent of the shoulders, placed as the arms were in this case, than if they had been flexed on the chest. A consideration of the difference of the breadth of the shoulders in the two attitudes would render this quite intelligible. Such a consideration would then tend to place this in the primary category. On the other hand, however, the extreme prominence of the uterine tumour under the sternum may have been a result of this malposition also, and may have had to do with the production of the accident after labour set in. Assuming the original position to have been L.O.A., the attitude of the arms would have tended to push the shoulders back towards the spine of the mother, and at the same time caused the breech to tilt outwards. There would then have arisen a form of uterine obliquity comparable in its effects with the lateral obliquity which Matthews Duncan has shown may have to do frequently with the production of face presentations, differing from it in being antero-posterior in direction. This curvature would have its convex aspect in front, that against which the occiput would lie, while its concave aspect would be in relation to the foetal sinciput behind. Thus, when uterine action set in, we should expect, according to Duncan's theory, that the part lying in the concavity, *i.e.*, the sinciput, would descend more rapidly than the other, and the face presentation described would thus arise.

I offer both these suggestions with diffidence, as possibly offering an explanation of the condition. As I have indicated, the absence of any observation before labour set in renders the attempt at settling the question now more or less futile. No explanation seems possible from any peculiarity in the shape of the head, which, though somewhat above normal, was perfectly proportioned.

Secondly, the question arises, "How should it happen that, in a multipara with a previous history of so many normal labours, the face should have become impacted?" This seems to me to be explicable partly from the size of the head, but in much greater degree as a result of the breadth of the shoulders interfering with the occurrence of the mechanism proper to a face presentation. It was noticed all through that though a distinct difference existed between the level of chin and frontal bone, yet this difference was never so great as to be very striking, and certainly never so extensive as occurs in an ordinary face mechanism. There can be no doubt that the difficulty attending the descent of the shoulders upon the occiput would account for this, and probably be the chief factor in bringing about the impaction.

Thirdly, as to the position of the arms. I am not aware that a similar disposition of the arms has been described. The nearest

approach to it is the well-known condition described first by Sir James Simpson, in which the right arm was flexed behind and under the occiput.

The question naturally arises as to whether this condition existed before labour or arose during it? It appears to me that it was distinctly a pre-existing condition, and that it most likely arose during the earlier months of pregnancy. At that time the arms had probably become extended during some of the movements of the foetus, and, remaining in that position, had gradually become compressed more and more firmly by the diminishing relative capacity of the uterine cavity. In these circumstances they might readily slip on to the back, and, once there, any alteration of their position would be almost impossible.

That the displacement should arise during labour is not easy of credence. The extreme tension of the uterine walls would render the transition from a condition of extreme pectoral flexion to an extreme state of dorsi-extension almost impossible.

The practical bearings of the condition are interesting and important.

1. It may have been the primary cause of the malpresentation, as I have indicated. 2. It may to a very great extent have caused the sacrifice of the life of the child; for had delivery of the shoulders been more expeditiously effected, it is possible that its life might have been saved. 3. But it is chiefly in relation to the question of *turning* that its importance stands out. It appears to me that, had turning been resorted to in this case, there would almost certainly have been very serious difficulty with the arms. It is, of course, possible that the hands would have slipped down alongside the buttocks, but it seems to me far more likely that they should hitch. More than probably the forearm would have flexed on the elbow, which would have caught at the brim behind the trunk of the child, and traction would have given rise to a backward movement of the elbows, resulting in a much more firm impaction. Rectification would not have been possible, owing to the height at which the accident would have occurred, and I cannot conceive that anything short of dislocation of both shoulders would have rendered delivery possible.

The mechanism of the shoulders seems to have been very distinct and worthy of note. When the head was born, the biacromial diameter must have been in the right oblique of the brim. On combined traction and compression they had swept round into the transverse, and, at the same time descending, had passed down through the pelvis, reaching the floor and making their exit in the conjugate. Such mechanism only could explain the very extensive movement of the foetal head outside the pelvis, and the close analogy to head mechanism would be all the more necessary on account of the much increased biacromial diameter.

I have carefully considered the question as to whether the posi-

tion of the arms would in any way act on the muscles of the neck so as to give rise to any backward traction of the head, but am unable to see how this could arise.

In conclusion, I should like to say a word or two by way of explanation of the treatment adopted at the various stages of the case; and though I have no wish to deprecate criticism, I should like to state here the reasons which I had for conducting the case as I did.

As I have indicated, the question of turning as a mode of treatment arose at an early stage; but although this mode of delivery seemed one of easy accomplishment at this stage, and although the older obstetricians recommend it as a suitable mode of dealing with such cases, yet the fact that the great majority of face cases terminate without interference renders such a step at this stage, as a rule, uncalled for, and I certainly did not feel justified in attempting the operation. As the sequel showed, any attempts at turning would have most likely resulted in a very grave difficulty with the arms—so much so that delivery would hardly have been possible without mutilation of the child. Besides, the extreme mobility of the face at this stage rendered the hope not at all a slight one that the facial position would correct itself at or before engaging. Dr Croom has shown that a well-observed primary face case may terminate by presenting and being delivered as an ordinary vertex, and there seemed quite as much reason to look for such a termination in this case as in the one which he records.

Of course, the rupture of the membranes and the impaction of the facial diameter soon dispelled this hope; but yet there seemed no grounds for interfering until it became clear that the chin was rapidly rotating backwards, and when digital efforts at prevention had failed. Then I felt that interference was called for; and I applied the forceps, not with the view of producing immediate delivery, but for the purpose of depressing the occiput and rotating the chin, and so hastening and assisting the natural efforts. I accordingly caught the head by the occiput, and applied only as much force in compression and traction as seemed justifiable.

While the use of the forceps at this stage did not seem to have the desired effects of checking backward rotation or of depressing the occiput to any marked extent, I think that a certain amount of advantage was offered to the natural efforts by promoting, as it did to some extent, the descent into the pelvis. Further, the absolutely stationary condition of affairs from this time for seven hours indicated that further interference was necessary, and that the natural efforts were not adequate to the task of emptying the uterus.

It also seems to me that the remarkable ease with which delivery was effected by means of the instruments used, after the ordinary form had failed, says much for the efficiency of the former. It was most unfortunate that the only instrument which was available was of an imperfect pattern, for there can be no doubt

that the amount of pressure necessary to lock the blades was calculated to do much harm to the face and head. The perfect instrument is provided with an adjustable screw catch, by means of which any amount of graduated pressure can be applied.

It would appear that while the ordinary instrument is quite sufficient to meet the requirements of some high and of most low operations, the axis-traction instrument for such cases as the one under consideration, as well as for others at or about the brim, when *direction* of traction is of as much importance as *amount of force* applied, is an addition to the obstetrician's armamentarium of no small value. While avowedly a modification of Tarnier's instrument, its greater lightness, neatness, and adaptability to the left side position render it in every way a more convenient instrument than its French prototype.