

forceps should be applied as soon as the head can be easily reached. If the tumor itself obstruct the passage of the head, or if it be of any considerable size, it will be necessary to incise it freely at its most prominent point and turn out the coagula, controlling the hemorrhage at once by filling the cavity with cotton wadding saturated in a solution of perchloride of iron, while at the same time digital compression with the tips of the fingers is kept up. By this means pressure is applied directly to the bleeding-point, and the hemorrhage can be controlled without difficulty. This is all the more necessary if spontaneous rupture has taken place, for then the loss of blood is often profuse, and it is of the utmost importance to reach the site of the hemorrhage as nearly as possible.

If the thrombus be not so large as to obstruct delivery, or if it be not detected until after the birth of the child, the question arises whether the case should not be left alone, in the hope that absorption may occur, as in most cases of pelvic hæmatocele. This expectant treatment is advised by Cazeaux, and it seems to be the most rational plan we can adopt. True, it may take a longer time for the patient to convalesce completely than if the coagula were removed at once, and the hemorrhage restrained by pressure on the bleeding-point; but this disadvantage is more than counterbalanced by the absence of risk from hemorrhage, and of septicæmia from the suppuration that must necessarily follow. Softening and suppuration may in many cases occur in a few days, necessitating operation, but the vessels will then be probably occluded, and the risk of hemorrhage be much lessened. The late Dr. Fordyce Barker, however, held the opposite opinion, and thought that the proper plan was to open the thrombus early, controlling the hemorrhage in the manner already indicated, unless the thrombus is situated high in the vaginal canal.

Whenever the cavity of a thrombus has been opened, either by incision or by spontaneous softening at some time subsequent to its formation, it must not be forgotten that there is considerable risk of septic absorption. To avoid this, care must be taken to use antiseptic dressings freely, such as iodoform powder or wool, applied directly to the part, and frequent vaginal injections of diluted Condé's fluid. Barker laid special stress upon the importance of not removing prematurely the coagula formed by the styptic applications, for fear of secondary hemorrhage, but of allowing them to come away spontaneously.

[**Polypus.**—Large uterine polypi may act as serious obstacles to delivery. When sufficiently long in pedicle, a polypus may be extruded before the head of the fœtus. The tumor may also be detached in its expulsion, or may be removed by an *écraseur* if recognized in time; it may also be pushed up out of the way and secured by bringing down the child. I once replaced a large polypus that was extruded before the head, and the woman carried it two years longer; by which time, being much wasted by the discharge, she made up her mind to have it removed.—ED.]

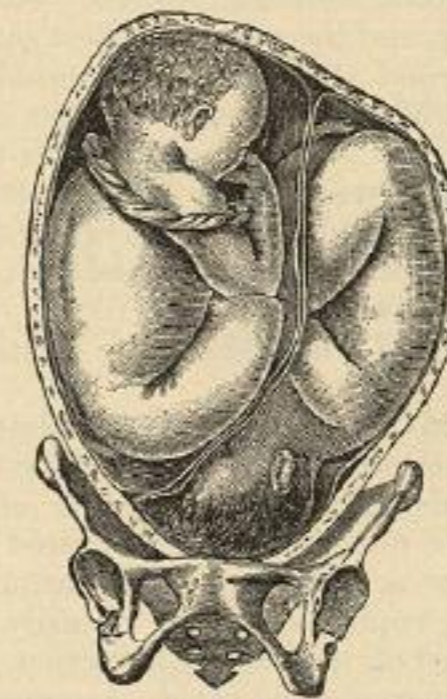
CHAPTER XI.

DIFFICULT LABOR DEPENDING ON SOME UNUSUAL
CONDITION OF THE FŒTUS.

Plural Births.—The subject of multiple pregnancy in general having already been fully considered, we have now only to discuss its practical bearing as regards labor. Fortunately, the existence of twins rarely gives rise to any serious difficulty. In the large proportion of cases the presence of a second fœtus is not suspected until the birth of the first, when the nature of the case is at once apparent from the fact of the uterus remaining as large, or nearly as large, as it was before.

There may possibly be some delay in the birth of the first child, inasmuch as the extreme distention of the uterus may interfere with

FIG. 130.



Twin pregnancy, breech and head presenting.

its thoroughly efficient action; while, in addition, the uterine pressure is not directly conveyed to the ovum as in single births, but indirectly through the amniotic sac of the second child (Fig. 130). Such delay is especially apt to arise when the first child presents by the breech, for, even if the body be expelled spontaneously, difficulty is likely to occur with the head, since the uterus does not contract upon

it as is ordinarily the case. Hence the intervention of the accoucheur to save the life of the child, by the extraction of the head, will be almost a matter of necessity.

In the majority of cases, after the birth of the first child, there is a temporary lull in the pains, which soon recommence, generally in from ten to twenty minutes, and the second child is rapidly expelled; for on account of the full dilatation of the soft parts, there is no obstacle to its delivery. Sometimes there is a considerable interval before the pains recur, and instances are recorded in which even several days elapsed between the births of the two children.

Treatment.—In most cases the management of twins does not differ from that of ordinary labor. As soon as we are certain of the existence of a second fetus, we should inform the bystanders, but not necessarily the mother, to whom the news might prove an unpleasant and even dangerous shock. Then, having taken care to tie the cord of the first child for fear of vascular communication between the placentæ, our duty is to wait for a recurrence of the pains. If these come on rapidly, and the presentation of the second fetus be normal, its birth is managed in the usual way.

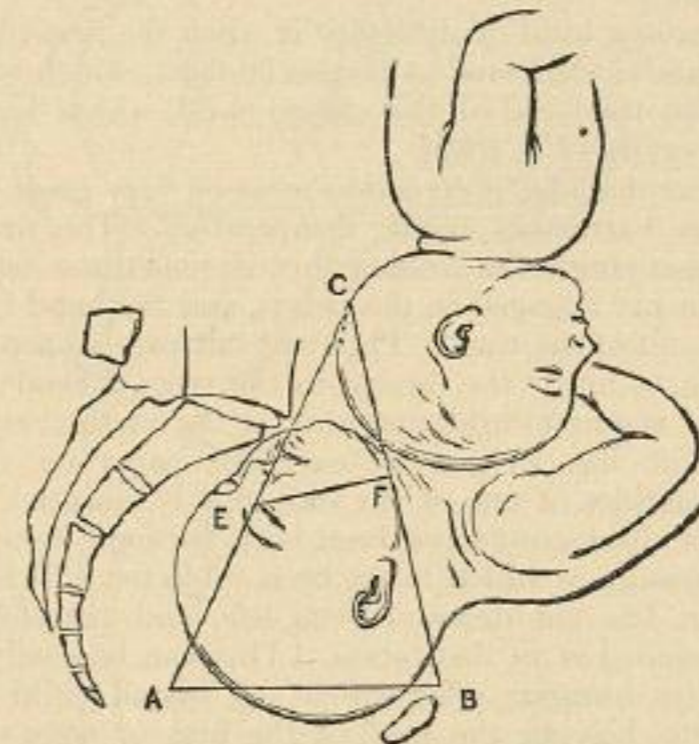
If there be any unusual delay, we have to consider the proper course to pursue, and on this the opinions of authorities differ greatly. Some advise a delay of several hours, and even more, if pains do not recur spontaneously; while others—Murphy, for example—recommend that the second child should be delivered at once. Either extreme of practice is probably wrong, and the safest and best course is, doubtless, the median one. The second point to bear in mind is, that in multiple pregnancy, on account of the extreme distention of the uterus, there is a tendency to inertia, and consequently to post-partum hemorrhage; and that, therefore, it is better that the birth of the second child should be delayed, even for a considerable time, rather than that the patient should run the risk attending an empty and uncontracted uterus. If, however, uterine action be present, there is an obvious advantage in the delivery of the second child before the dilatation of the passages passes off.

The best plan would seem to be, if, after waiting a quarter of an hour, labor-pains do not occur, to try and induce them by uterine friction and pressure, and by the administration of a dose of ergot, to which, as there can be no obstacle to the rapid birth of the second child, there can be now no objection. The membranes of the second child should always be ruptured at once, if easily within reach, as one of the speediest means of inducing contraction. If no progress be made, and speedy delivery be indicated—a necessity which may arise either from the exhausted state of the patient, the presence of hemorrhage, extremely feeble pulsations of the fetal heart (showing that the life of the second child is endangered), or malpresentation of the second fetus—turning is probably the readiest and safest expedient. Under such circumstances the operation is performed with great ease, since the passages are amply dilated. After bringing down the feet, the birth of the body should be slowly effected, with the view of insuring as complete subsequent contraction as possible. If the head has

descended in the pelvis, of course turning is impossible, and the forceps must be applied.

Difficulties arising from Locked Twins.—Occasionally very serious difficulties arise from parts of both fetuses presenting simultaneously, and thus impeding the entrance of either child into the pelvis, or getting locked together, so as to render delivery impossible without artificial aid. Such difficulties are not apt to arise in the more ordinary cases, in which each child has its own bag of membranes, since then the fetuses are kept entirely separate; but in those in which the twins are contained in a common amniotic cavity, or in which both sacs have burst simultaneously. They are very puzzling to the obstetrician, and it may be far from easy to discover the cause of the obstruction. Nor is it possible to lay down any positive rules for their management, which must be governed, to a considerable extent, by the circumstances of each individual case.

FIG. 131.



Shows head-locking, both children presenting head first. (After BARNES.)

Sometimes both heads present simultaneously at the brim, and then neither can enter unless they be unusually small or the pelvis very capacious, when both may descend; or rather the first head may descend low into the pelvic cavity, and then the second head enters the brim, and gets jammed against the thorax of the first child (Fig. 131).

Reimann¹ relates a curious example of this, in which he delivered the head first with the forceps, but found the body would not follow, and, on examination, a second head was found in the pelvis. He then applied the forceps to the second head; the body of the first child was then born, and afterward that of the second. Such a mechanism must

¹ Arch. f. Gynäk., 1871, Bd. II, p. 99.

clearly have been impossible unless the pelvis had been extremely large.

Whenever both heads are felt at the brim, it will generally be found possible to get one out of the way by appropriate manipulation, one hand being passed into the vagina, the other aiding its action from without. Then the forceps may be applied to the other head, so as to engage it at once in the pelvic cavity. If both have actually passed into the pelvis, as in the case just alluded to, the difficulty will be much greater. It will generally be easier to push up the second head while the lower is drawn out by the forceps, than to deliver the second, leaving the first *in situ*.

In other cases a foot or a hand may descend along with the head, and even the four feet may present simultaneously. The rule in the former case is to push the part descending with the head out of the way, and in the latter to disengage one child as soon as possible. Great care is necessary, or we might possibly bring down the limbs of separate children.

The most common kind of difficulty is when the first child presents by the breech, and is delivered as far as the head, which is then found to be locked with the head of the second child, which has descended into the pelvic cavity (Fig. 132).

Here it is clear that the obstruction must be very great, and, unless the children are extremely small, insuperable. The first endeavor should be to disentangle the heads; this is sometimes feasible if the second be not deeply engaged in the pelvis, and the hand be passed up so as to push it out of the way. This will but rarely succeed; then it may be possible to apply the forceps to the second head and drag it past the body of the first child, and this is the method recommended by Reimann, who has written an excellent paper on the subject.¹ Generally the sacrifice of one of the children is essential, and as the body of the first child must have been born for some time, it is probable that the pressure to which it has been subjected will have already imperilled, if it has not destroyed, its life, and therefore the plan usually recommended is to decapitate. This can be easily done with scissors or a wire *écraseur*, after which the second child is expelled without difficulty, leaving the head of the first *in utero* to be subsequently dealt with.

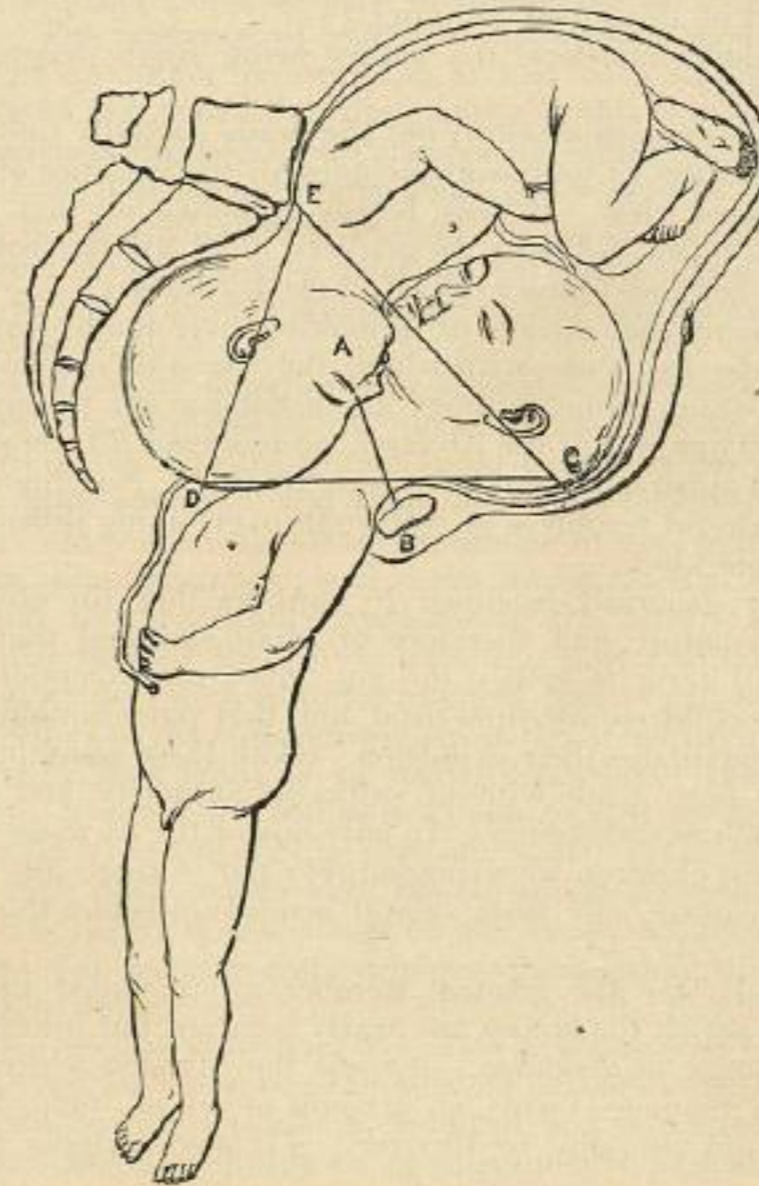
Another mode of managing these cases is to perforate the upper head and draw it past the lower with the cephalotribe or craniotomy forceps. This plan has the disadvantage of probably sacrificing both children, since the other child can hardly survive the pressure and delay, whereas the former plan gives the second child a fair chance of being born alive.

Double Monsters.—In connection with the subject of twin labor we may consider those rare cases in which the bodies of the fetuses are partially fused together. The mechanism and management of delivery in cases of double monstrosity have attracted comparatively little attention, no doubt because authors have considered them matters of curiosity merely, rather than of practical importance.

¹ American Journal of Obstetrics, 1877, vol. x. p. 47.

The frequent occurrence of such monstrosities in our museums, and the numerous cases scattered through our periodical literature, are sufficient to show that they are not so very rare as we might be inclined to imagine; and, as they are likely to give rise to formidable difficulties in delivery, it cannot be unimportant to have a clear idea of the usual course taken by Nature in effecting such births, with a view of enabling us to assist in the most satisfactory manner should a similar case come under our observation.

FIG. 132.



Shows head-locking, first child coming feet first; impaction of heads from wedging in brim. D. Apex of wedge. E. C. Base of wedge, which cannot enter brim. A. B. Line of decapitation to decompose wedge, and enable head of second child to pass. (After BARNES.)

Unfortunately, the authors who have placed on record the birth of double monsters have generally occupied themselves more with a description of the structural peculiarities of the fetuses than with the mechanism of their delivery; so that, although the cases to be met with in medical literature are very numerous, comparatively few of them are of real value from an obstetric point of view. Still, I have been

able to collect the details of a considerable number¹ in which the history of the labor is more or less accurately described; and doubtless a more extensive research would increase the list.

Double Monstrosity may be Divided into Four Classes.—For obstetric purposes we may confine our attention to four principal varieties of double monstrosity, which are met with far more frequently than any others. These are:

A. Two nearly separate bodies united in front to a varying extent, by thorax or abdomen.

B. Two nearly separate bodies united back to back by the sacrum and lower part of the spinal column.^[2]

C. Dicephalous monsters, the bodies being single below, but the heads separate.^[3]

D. The bodies separate below, but the heads partially united.

This classification by no means includes all the varieties of monsters that we may meet with. It does, however, include all that are likely to give rise to much difficulty in delivery; and all the cases I have collected may be placed under one of these divisions.

The first point that strikes us in looking over the history of these deliveries is the frequency with which they have been terminated by the natural powers alone, without any assistance on the part of the accoucheur. Thus, out of the 31 cases, no less than 20 were delivered naturally, and apparently without much trouble. Nothing can better show the wonderful resources of Nature in overcoming difficulties of a very formidable kind.

It is pretty generally assumed by authors that the children are necessarily premature, and therefore of small size, and that delivery before the full term is rather the rule than the exception. Dugés states that the children are often dead, and that putrefaction has taken place, which facilitates their expulsion. Both these assumptions seem to me to have been made without sufficient authority, and not to be borne out by the recorded facts. In only one of the 31 cases is it mentioned that the children were premature; nor is there any sufficient reason that I can see why labor should commence before the full term of gestation.

Class A.—By far the greatest number are included in the first class—that in which the bodies are nearly separate, but united by some part of the thorax or abdomen. This is the division which includes the celebrated Siamese Twins, an account of whose birth, I may observe, I have not been able to discover.⁴ [It also includes the Orissa

¹ *Obst. Trans.*, 1867, vol. viii, p. 200.

² [As in the Carolina Sisters (colored), now living at the age of forty-two; and the Bohemian Sisters, Blazek, born January 20, 1878, also still living. Rosalie Blazek came by the head—the pelvis and four legs followed the delivery of her thorax—and finally the chest and head of Josepha were delivered.—Ed.]

³ [As in the Tocci Brothers, now living, who were born at Locana, Italy, on October 4, 1877. Their analogue, the "Rita-Christus," of Sassari, Island of Sardinia, 1829, lived eight months—March 12th to November 23d.—Ed.]

⁴ The mother of these twins was a Chinese half-breed, short, and with a broad pelvis, and had borne several children previously. She stated on several occasions, in conversation with parties in Siam, that the twins were born reversed, the feet of one being followed by the head of the other, and that they were very small and feeble at birth and for several months afterward. The twins confirmed this statement by affirming that they could, when little boys at play on the ground, turn themselves end for end upon the ensiform attachment up to the age of ten or twelve, the attachment being then soft and pliable.—Harris's note to second American edition.

[These twins were three-quarters Chinese, their father being a Chinaman. Their mother was seen by Dr. W. S. W. Ruschenberger, in Bangkok, and described as above.—Ed.]

Sisters, of India, recently shown in London, nearly four years old. Their birth was a very easy one.] Out of the 31 cases, 19 come under this heading. The details of the labors are briefly as follows: 1 died undelivered; 8 were terminated by the natural powers (in three of which the feet, and in three the head presented, in two the presentation is doubtful); 6 were delivered by turning, or by traction on the lower extremities; 4 were delivered instrumentally.

The details of the cases in which the feet presented, or in which turning was performed, clearly show that footling presentation was by far the most favorable, and it is fortunate that the feet often present naturally. The inference, of course, is that version should be resorted to whenever any other presentation is met with in cases of double monstrosity of this type; but, unfortunately, this rule could rarely be carried into execution, since we possess no means of diagnosing the junction of the fetuses at a sufficiently early stage of labor to admit of turning being performed. It is only under exceptionally favorable circumstances that this can be done; as, for example, in a case recorded by Molas, in which both heads presented, but neither would enter the brim of the pelvis.

The great difficulty must, of course, be in the delivery of the heads, for in all the recorded cases, with one exception, the bodies have passed through the pelvis parallel to each other with comparative ease until the necks have appeared, and then, as a rule, they could be brought no further. It is clear that the remainder of the fetuses could no longer pass simultaneously; and, were direct traction continued, the heads would be inextricably fixed above the brim. In accordance with the direction of the pelvic axes the posterior head must first engage in the inlet; and, in order to effect this, it will be necessary to carry the bodies of the children well over the abdomen of the mother. This seems to be a point of primary importance. It would also be advisable to see that the bodies are made to pass through the pelvis with their backs in the oblique diameter. By this means more space is gained than if the backs were placed antero-posteriorly; while, at the same time, there is less chance of the heads hitching against the promontory of the sacrum and symphysis pubis, which otherwise would be very apt to occur.

When the head presents, and the labor is terminated by the natural powers, delivery seems to be accomplished in one of two ways.

In the first and more common, the head and shoulders of one child are born, its breech and legs being subsequently pushed through the pelvis by a process similar to that of spontaneous evolution; and, afterward, the second child probably passes footling without much difficulty.

Barkow relates a case in which *both* heads were delivered by the forceps, the bodies subsequently passing simultaneously. Two similar instances are recorded in the third and sixth volumes of the *Obstetrical Transactions*. When delivery takes places in this manner, the head of the second child must fit into the cavity formed by the neck of the first, and the pelvis must necessarily be sufficiently roomy to admit of the expulsion of the head of the second child while its cavity is dimin-

ished in size by the presence of the neck and shoulders of the first. Either of these processes must obviously require exceptionally favorable conditions as regards the size of the child and the pelvis; and the difficulty in the way of delivery must be much greater than when the lower extremities present. Therefore, I think the rule should be laid down that, when the nature of the case is made out (and for the purpose of accurate diagnosis a complete examination under anæsthesia should be practised), turning should be performed, and the feet brought down.

In the event of its being found impossible to effect delivery after a considerable portion of the bodies is born, no resource remains but the mutilation of the body of one child, so as to admit of the passage of the other. This was found necessary in one case in which the children presented by the feet, and were born as far as the thorax, but could get no further. The body of the anterior child was removed by a circular incision as far as it had been expelled, which allowed the remaining portion, consisting of the head and shoulders, to re-enter the uterus; after this the posterior child was easily extracted, and the mutilated foetus followed without difficulty.

Class B.—In class B, in which the children are united back to back, [4] cases are recorded, all of which were delivered by the natural powers [and alive]. One of these is the case of Judith and Hélène, the celebrated Hungarian twins, who lived to the age of twenty-one. Hélène was born as far as the umbilicus, and, after the lapse of three hours, her breech and legs descended. Judith was expelled immediately afterward, her feet descending first. [The fourth case is that of the Bohemian sisters already mentioned.—Ed.]

It is probable that labor is easier in this class of double monsters than in the former, because the children are so joined that there is no necessity for the bodies to be parallel to each other during birth when the head presents, and after the birth of the head and shoulders of the first child, its breech and lower extremities are evidently pushed down and expelled by a process of spontaneous evolution. If the feet originally presented, the mechanism of delivery and the rules to be followed would be the same as in class A; but the difficulty would probably be greater, since the juncture is not so flexible, and a more complete parallelism of the bodies would be necessary during extraction.

Class C.—In class C, that of the dicephalous monsters, I have found the description of the birth of eight cases, three of which were terminated by the natural powers. In two of these, the process of evolution was the main agent in delivery; one head being born and becoming fixed under the arch of the pubes, the body being subsequently pushed past it, and the second head following without difficulty. This process

[The celebrated Carolina twins, born July 11, 1851, and still living, were brought into the world by the same method, but the mother, having a large pelvis, had "a brief and easy" delivery. The larger of the two girls also came first, as in the Tzoni case of 1701. These twins are twice as old as the Hungarian sisters were at death.—Ed.]

failing, the proper course is to decapitate the first-born head, and then bring down the feet of the child, when delivery can be accomplished with ease. This was the course adopted in two out of the eight cases; and it may be done with the less hesitation since, from their structural peculiarities, it is extremely improbable that monsters of this kind should survive. In the third case, terminated naturally, the heads were said to have been born simultaneously, but it seems probable that the one head lay in the hollow formed by the neck of the other, and so rapidly followed it. If the feet presented, the case might be managed in the same manner as in class A.

[Of class C, I have a record of twelve cases, eight united boys, and four girls, born from 1316 to 1877, inclusive. Five of the male twins, and two of the female, were born alive. The male twins lived respectively a few minutes, a few days, fifteen days, twenty-eight years, and fifteen years (still living). The two female twins lived one day, and eight months.—Ed.]

Class D.—Monstrosities of class D, in which the heads are united, the bodies being distinct, appear to be the most uncommon of all; and I can find the description of delivery in only two cases. One of these gave rise to great difficulty; the labor in the other was easy. We should scarcely anticipate much difficulty in the birth of monsters of this type; for, if the head presented and would not pass, we should naturally perform craniotomy; and if the bodies came first, the delivery of the monstrous head could readily be accomplished by perforation.

The result to the mothers in all these cases seems to have been very favorable. There is only one in which the death of the mother is recorded; and although in many the result is not mentioned, we may fairly assume that recovery took place.

Among difficulties in labor, some of the most important are due to morbid conditions of the foetus itself.

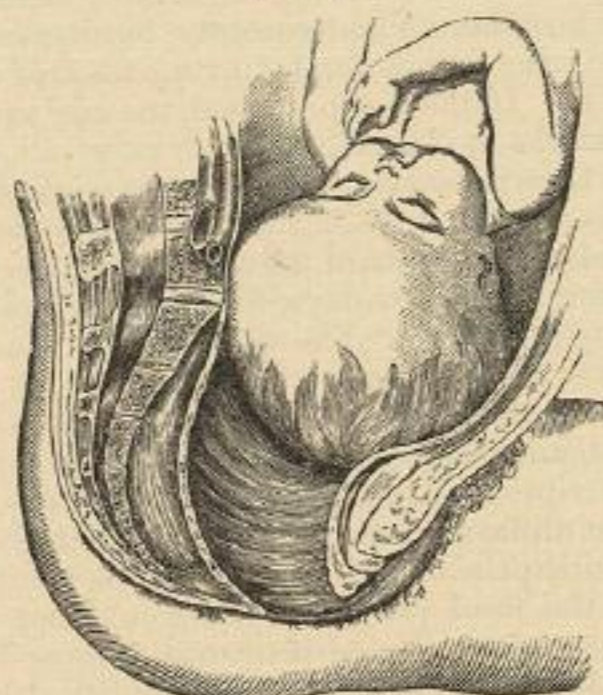
Intra-uterine Hydrocephalus.—Of these, the most common, as well as the most serious, is caused by intra-uterine hydrocephalus (giving rise to a collection of watery fluid within the cranium), by which the dimensions of the child's head are enormously increased, and the due relations between it and the pelvic cavity entirely destroyed (Fig. 133).

Fortunately this disease is of comparatively rare occurrence, for it is one of great gravity both as regards the mother and child. As regards the mother, the serious character of the complication is proved by the statistics of Dr. Thomas Keith, then of Edinburgh, who found that out of seventy-four cases no less than sixteen were accompanied by rupture of the uterus. The reason of the danger to which the mother is subjected is obvious. In some few cases, indeed, the head is so compressible that, provided the amount of contained fluid be small, it may be sufficiently diminished in size, by the moulding to which it is subjected, to admit of its being squeezed through the pelvis. [The majority of cases, however, the size of the head is too great for this to occur. The uterus therefore exhausts itself, and may even rupture,

[I once removed a measured pint of hydrocephalic serum from a foetus that was born dead, without assistance.—Ed.]

in the vain endeavor to overcome the obstacle; while the large and distended head presses firmly on the cervix, or on the pelvic tissues, if the os be dilated, and all the evil effects of prolonged compression are apt to follow.

FIG. 133.



Labor impeded by hydrocephalus.

Diagnosis.—The diagnosis of intra-uterine hydrocephalus is by no means so easy as the description in obstetric works would lead us to believe. It is true that the head is much larger and more rounded in its contour than the healthy fetal cranium, and also that the sutures and fontanelles are more wide, and admit occasionally of fluctuation being perceived through them. Still it is to be remembered that the head is always arrested above the brim, where it is consequently high up and difficult to reach, and where these peculiarities are made out with much difficulty. As a matter of fact, the true nature of the case is comparatively rarely discovered before delivery; thus Chaussier¹ found that in more than one-half of the cases he collected, an erroneous diagnosis had been made.

Whenever we meet with a case in which either the history of previous labor, or a careful examination, convinces us that there is no obstacle due to pelvic deformity, in which the pains are strong and forcing, but in which the head persistently refuses to engage in the brim, we may fairly surmise the existence of hydrocephalus. Nothing, however, short of a careful examination under anaesthesia, the whole hand being passed into the vagina so as to explore the presenting part thoroughly, will enable us to be quite sure of the existence of this complication. Under these circumstances such a complete examination is not only justified but imperative; and, when it has been made, the difficulties of diagnosis are lessened, for then we may readily make out

¹ Gazette Médicale, 1834.

the large round mass, softer and more compressible than the healthy head, the widely separated sutures, and the fluctuating fontanelles.

In a considerable proportion of cases—as many, it is said, as one out of five—the fetus presents by the breech. The diagnosis is then still more difficult; for the labor progresses easily until the shoulders are born, when the head is completely arrested, and refuses to pass with any amount of traction that is brought to bear on it. Even the most careful examination may not enable us to make out the cause of the delay, for the finger will impinge on the comparatively firm base of the skull, and may be unable to reach the distended portion of the cranium. At this time abdominal palpation might throw some light on the case; for, the uterus being tightly contracted round the head, we might be able to make out its unusual dimensions. The wasted and shrivelled appearance of the child's body, which so often accompanies hydrocephalus, would also arouse suspicion as to the cause of delay. On the whole, such cases may be fairly assumed to be less dangerous to the mother than when the head presents; for, in the latter, the soft parts are apt to be subjected to prolonged pressure and contusion while, in the former, delay does not commence till after the shoulders are born, and then the character of the obstacle would be sooner discovered, and appropriate means earlier taken to overcome it.

Treatment.—The treatment is simple, and consists in tapping the head, so as to allow the cranial bones to collapse. There is the less objection to this course, since the disease almost necessarily precludes the hope of the child's surviving. The aspirator would draw off the fluid effectually, and would at least give the child a chance of life; and, under certain circumstances, the birth of a child who lives for a short time only may be of extreme legal importance. More generally the perforator will be used, and as soon as it has penetrated, a gush of fluid will at once verify the diagnosis. Schroeder recommends that, after perforation, turning should be performed, on account of the difficulty with which the flaccid head is propelled through the pelvis. This seems a very unnecessary complication of an already sufficiently troublesome case. As a rule, when once the fluid has been evacuated, the pains being strong, as they generally are, no delay need be apprehended. Should the head not come down, the cephalotribe may be applied, which takes a firmer grasp than the forceps, and enables the head to be crushed to a very small size and readily extracted.

When the breech presents, the head must be perforated through the occipital bone, and generally this may be accomplished behind the ear without much difficulty. In a case of Tarnier's the vertebral column was divided by a bistoury and an elastic male catheter introduced into the vertebral canal, through which the intra-cranial fluid escaped, the labor being terminated spontaneously.¹ In any case in which it is found difficult to reach the skull with the perforator this procedure should certainly be tried.

Other forms of dropsical effusion may give rise to some difficulty, but by no means so serious. In a few rare cases the thorax has

¹ Hergott: *Maladies Fœtales qui peuvent faire obstacle à l'accouchement*. Paris, 1878.

been so distended with fluid as to obstruct the passage of the child. Ascites is somewhat more common, and occasionally the child's bladder is so distended with urine as to prevent the birth of the body. The existence of any of these conditions is easily ascertained; for the head or breech, whichever happens to present, is delivered without difficulty, and then the rest of the body is arrested. This will naturally cause the practitioner to make a careful exploration, when the cause of the delay will be detected.

The treatment consists in the evacuation of the fluid by puncture. In the case of ascites, this should always be done, if possible, by a fine trocar or aspirator, so as not to injure the child. This is all the more important since it is impossible to distinguish a distended bladder from ascites, and an opening of any size into that viscus might prove fatal, whereas aspiration would do little or no harm, and would prove quite as efficacious.

Fœtal Tumors Obstructing Delivery.—Certain fœtal tumors may occasion dystocia, such as malignant growths, or tumors of the kidney, liver, or spleen. Cases of this kind are recorded in most obstetric works. Hydro encephalocèle, or hydro-rhachitis, depending on defective formation of the cranial or spinal bones, with the formation of a large protruding bag of fluid, is not very rare. The diagnosis of all such cases is somewhat obscure, nor is it possible to lay down any definite rules for their management, which must vary according to the particular exigencies. The tumors are rarely of sufficient size to prove formidable obstacles to delivery, and many of them are very compressible. This is specially the case with the spina bifida and similar cystic growths. Puncture—and, in the more solid growths of the abdomen or thorax, eviscération—may be required.

Other deformities, such as the anencephalous fœtus, or defective development of the thorax or abdominal parietes with protrusion of the viscera, are not likely to cause difficulty; but they may much embarrass the diagnosis by the strange and unusual presentation that is felt. If, in any case of doubt, a full and careful examination be undertaken, introducing the whole hand if necessary, no serious mistake is likely to be made.

Dystocia from Excessive Development of the Fœtus.—In addition to dystocia from morbid conditions of the fœtus, difficulties may arise from its undue development, and especially from excessive size and advanced ossification of the skull. This last is especially likely to cause delay. Even the slight difference in size between the male and female head was found by Simpson to have an appreciable effect in increasing the difficulty of labor, when the statistics of a large number of cases were taken into account; for he proved, beyond doubt, that the difficulties and casualties of labor occurred in decidedly larger proportion in male than in female births. Other circumstances, besides sex have an important effect on the size of the child. Thus Duncan and Hecker have shown that it increases in proportion to the age of the mother and the frequency of the labors; while the size of the parents has no doubt also an important bearing on the subject.

Although these influences modify the results of labor *en masse*, they

have little or no practical bearing on any particular case, since it is impossible to estimate either the size of the head or the degree of its ossification until labor is advanced.

Treatment.—When labor is retarded by undue ossification or large size of the head, the case must be treated on the same general principles which guide us when the want of proportion is caused by pelvic contraction. Hence, if delay arise which the natural powers are insufficient to overcome, it will seldom happen that the disproportion is too great for the forceps to overcome. If we fail to deliver by it, no resource is left but perforation.

Large size of the body of the child is still more rarely a cause of difficulty; for, if the head be born, the compressible trunk will almost always follow. Still, a few authentic cases are on record in which it was found impossible to extract the fœtus on account of the unusual bulk of its shoulders and thorax. Should the body remain firmly impacted after the birth of the head, it is easy to assist its delivery by traction on the axillæ, by gently aiding the rotation of the shoulders into the antero-posterior diameter of the pelvic cavity, and, if necessary, by extracting the arms, so as to lessen the bulk of the part of the body contained in the pelvis. Hicks relates a case in which eviscération was required for no other apparent reason than the enormous size of the body. The necessity for any such extreme measure must, of course, be of the greatest possible rarity; and it is quite exceptional for difficulty from this source to be beyond the powers of Nature to overcome.

CHAPTER XII.

DEFORMITIES OF THE PELVIS.

Deformities of the Pelvis form one of the most important subjects of obstetric study, for from them arise some of the gravest difficulties and dangers connected with parturition. A knowledge, therefore, of their causes and effects, and of the best mode of detecting them, either during or before labor, is of paramount necessity; but the subject is far from easy, and it has been rendered more difficult than need be, from over-anxiety on the part of obstetricians to force all varieties of pelvic deformities within the limits of their favorite classification.

Difficulties of Classification.—Many attempts in this direction have been made, some of which are based on the causes on which the deformities depend, others on the particular kind of deformity produced. The changes of form, however, are so various and irregular, and similar, or apparently similar, causes so constantly produce dif-