PROVINCIAL MEDICAL & SURGICAL JOURNAL.

MEMOIR ON TURNING, AS AN ALTERNATIVE FOR CRANIOTOMY AND THE LONG FORCEPS, IN DEFORMITY OF THE BRIM OF THE PELVIS, &c. &c.*

By J. Y. SIMPSON, M.D.,
Professor of Midwifery in the University of Edinburgh.

SECTION VIII.—SUPPOSED OBJECTIONS TO THE PRACTICE IN RELATION TO THE LIFE OF THE MOTHER.

In the last section, when treating of the effect upon the infant, of the practice which I propose in distortions of the pelvis, I took occasion to state, that the only proper test or measure of value between a novel operative measure like this, and those operative measures for which it was suggested as a substitute, consists in ascertaining, not the absolute mortality attendant upon the new operation alone, but the comparative mortality attendant upon the new as compared with the other and older forms of treatment. In the same way, in the present section, the question is not,—what is the absolute maternal mortality attendant upon delivery by turning in cases of contracted pelvis? but, what is the mortality attendant upon that operation, as compared with the mortality accompanying the alternative operations of delivery by the long forceps and by craniotomy?

In the records of midwifery, there do not yet exist, as far as I am aware, any data by which it is possible to compute either the general or relative mortality to the mother, from the use of the long forceps. Nor can we obtain any satisfactory approximation to the probable results of their employment upon the mother, by studying the maternal mortality attendant upon the use of the short forceps. For the short forceps are employed only in cases in which the head is already sunk down into the pelvic cavity, and when the application of the instrument is far less difficult, and its effects less dangerous, than when the long forceps are had recourse to in consequence of the child's head being arrested high up in the passages, from the obstruction of a distorted pelvic brim.

It is principally, however, as an alternative for craniotomy that we have to consider the propriety of

turning; and there exist numerous data by which we may compare the relative mortality of these two operations. On this and other points in the statistics of midwifery, the laborious and valuable investigations of Dr. Churchill have thrown much light. The following table, which I have drawn up from Dr. Churchill's collection of data, shews us the general relative mortality attendant upon craniotomy and turning, in as far as regards the life of the mother.

TABLE VIII.
Shewing the Results to the Mother in Craniotomy and Turning.

Operation.	Number of Cases collected	Number of Mothers lost.	Proportion of Mothers lost.
Craniotomy	251	52	1 in 5
Turning ..	169	11	1 in 15

In some of these cases of turning, the deaths may, as Dr. Churchill points out, have been owing to the cause which demanded the operation, (such as placenta prævia,) and not owing to the operation itself; but, I believe with him, that the resulting calculation is "not very far from the truth."*

So far, such an imperfect estimate of the mere mortality of the two operations gives a result highly in favour of turning. But there is another element which comes into action, and which is not included in the above comparison. Most of the turning cases were instances in which the operation was performed in consequence of the child presenting transversely, and with most of them, comparatively little or no difficulty was probably encountered in getting the head to pass the pelvic brim. In the class of cases in which it is my object to recommend turning,—viz., with the brim narrow and distorted, would the operation, from its requiring the forcible extraction and compression of the head, be attended with much increase of peril to the mother?

On such a question being first suggested, most accoucheurs, I believe, would be inclined, *a priori*, to argue that the compression, however transitory, of the soft tissues included in the maternal pelvis, between

* Continued from page 398.

* Principles of the Practice of Midwifery, p. 245.

the interior of the maternal pelvic bones and the solid though elastic head of the infant, would be sure to be attended with inevitable danger, and evil consequences to the maternal structures; that the practice would, in short, be, as Dr. Radford has expressed it, "incompatible with the safety of the mother."

Prejudgments, however, even in pathological and practical matters of this description, are often wrong. Let us lay aside argument for experience, and supposition for fact, and examine, quietly and without prejudice, the actual and probable results of forced operative extraction of the infant's head, in cases of obstruction of the pelvic brim.

Dr. Denman had evidently some experience of the forcible extraction of the infant's head through contracted pelves, in preternatural presentations of the child. The rules of treatment, which I have already quoted from his chapter "On the Complication of Breech Cases with Distortion of the Pelvis," shew how entirely, or almost entirely, he trusted in these instances to the forced extraction of the head; and how very rarely, if ever, he had occasion to assist the delivery by craniotomy. And he states the results of all his observations in these instances, in terms most significant of its safety. "Nor have I ever known (says he,) any ill consequences follow the compression, which the soft parts of the mother undergo, between the head of the child and the sides of the pelvis, if proper attention were paid to the state of the bladder and rectum."*

The cases I have cited from Dr. Denman, and the others adduced in the preceding sections, so far afford corroborative evidence of this important remark. Altogether I have already referred to twelve or thirteen cases, in which the force of extraction or expulsion was so great that the head was not only compressed but indented. In none of these does the mother seem to have suffered from the compression or contusion. But these cases, it may be argued, are too few to entitle us to speak over-positively on the point. Let us turn, then, to others.

It often enough happens, among cases of pelvic distortion, that when the head of the child presents, and becomes obstructed at the brim, the mere perforation of the head, or first part of the operation of craniotomy, is not adequate to allow the operator to overcome, with subsequent ease, all the resistance of the obstacle opposing delivery. In many cases the second or succeeding part of the operation of craniotomy,—viz., the extraction of the head with the crotchet, through the contracted and obstructing brim, is still attended with difficulty, and requires for its completion more or less prolonged exertion by pulling and force. Under such circumstances, and though the child presents by the head and not by the feet, we have exactly the same form of danger threatening the soft structures of the maternal pelvis, as if the excessive

traction were made, not in craniotomy, but in turning. The two cases agree in this one common condition, that in both an exertion of traction and force is required to pull the obstructed head through the contracted pelvic brim; and in both the soft tissues lining the pelvis of the mother are equally liable to be contused and compressed, under this traction and force.

Now, in cases of craniotomy, such as I here allude to, and which require the operator to use *great exertions*, in dragging the head with the crotchet through the obstructing brim, is the mortality to the mother much increased above what it is in the common run of craniotomy cases? Or, to state the question in other terms, are such cases of craniotomy decidedly more dangerous and fatal than other cases of the same operation, in which such excess of traction is not required?

Dr. Lee's "Clinical Midwifery" presents us with a series of data relative to craniotomy operations, that may enable us to arrive at some accuracy of information regarding this question. In the first and second reports of his work, Dr. Lee details eighty-seven cases of craniotomy. The table No. IX. (see pp. 535—538,) gives a condensed view of the principal facts and results connected with these eighty-seven cases.

In most of the eighty-seven cases in the table, the operation of *embryulcio* was performed while the volume of the head was still above the brim. In the detail of many of the cases, Dr. Lee mentions whether the operation of extraction, after the skull was opened, was difficult or not; in thirty, however, of the eighty-seven, he particularly notes the extraction of the perforated head with the crotchet, as having been attended with difficulty and force. The foot-note (below)* contains a list of these thirty cases, and Dr. Lee's

* Case 5.—"After perforation, great difficulty was experienced in extracting the head with the crotchet." Case 8.—"From the long-continued efforts required to drag the head into the cavity of the pelvis, it was evident that the delivery could have been accomplished in no other way, with safety to the mother." Case 9.—"After perforation, strong efforts were required to complete the delivery, and she died within forty-eight hours." Case 16.—"The force afterwards required to extract the head with the crotchet, made us regret that we had not interfered sooner." Case 29.—"After perforation, the head was extracted with difficulty by the craniotomy forceps." Case 31.—"The head was perforated, and the force afterwards required to extract it with the craniotomy forceps was so great, that I regretted having endeavoured to deliver before lessening the volume of the head." Case 32.—"After perforation, so much force was required to draw the head through the pelvis with the craniotomy forceps, that I regretted having attempted to save the child." Case 34.—"The extraction of the head with the crotchet was a tedious and difficult operation." Case 35.—"I did not succeed without much difficulty in delivering with the craniotomy forceps." Case 38.—"I opened the head, and had much difficulty afterwards in drawing it down with the crotchet." Case 39.—"Perforation and extraction difficult." Case 40.—"Extraction difficult." Case 56.—"Extraction with the crotchet tedious and difficult." Case 59.—"Extraction difficult." Case 66.—"Great force required to extract." Case 76.—"The bones of the cranium were all torn away with the crotchet, before succeeded in drawing the base of the skull through the brim of the pelvis." * * Great force was afterwards

[See p. 538.]

TABLE IX.—Eighty-Seven Cases of Craniotomy, recorded by Dr. Lee, in the *First and Second Reports of his "Clinical Midwifery."*

No. of Case.	No. in Report.	Cause of Obstruction and Delay.	No. of Pregnancy.	Length of Labour before Operating.	Difficulty or not in Extraction.	Death or Recovery of Mother.	Other Results. Inflammation, Sloughing, &c.	Remarks.
1	1	Rigid os uteri; vagina swollen and tender...	1	Three days and nights	Not stated	Recovery	Sloughing; fistula	Long forceps tried first.
2	2	Head never through brim—convulsions	1	Fifty hours	Not stated	Recovery	Violent inflam. of uterus	Long forceps tried first.
3	4	Head jammed in brim	—	Above 48 hours	Required 1½ hrs. bones of head &c. much torn	Recovery	Post-partum hæmorrhage	Tried first to apply forceps.
4	5	Head not passed brim. Os uteri half dilated	2	Two days (48 hours)	Great difficulty	Recovery	Slight uterine inflammation	Tried first to apply forceps; craniotomy in former labour.
5	8	Head not passed brim	1	Nearly 60 hours	Long contd. efforts	Recovery	.....	Recovered rapidly.
6	8	Scalp tumid; bones riding	2	Strong, above 30 hrs.	Little difficulty	Recovery	.....	Ergot and repeated efforts with forceps tried previously.
7	8	Head wedged in brim	8	.....	Not stated	Death ....	.....	Forceps tried first; vagina enormously swollen.
8	9	Impacted in brim .....	—	.....	Strong efforts ..	Death ....	.....	Not able to apply the forceps. No bad consequences followed.
9	16	Not through brim. Os uteri rigid, not fully dilated.	1	About 50 hours	Force required	Recovery	.....	Delivered of first child by forceps. Forceps tried first.
10	17	Head low but not through the pelvis; anterior lip of uterus locked; labia swollen	1	About 48 hours	Not, except in overcoming perineum	Recovery	Inflammation and sloughing of vagina, & cicatrix	Forceps tried first; delivered since without assistance.
11	25	Head and arm jammed in brim	2	Above 30 hours	With difficulty	Recovery	.....	Forceps tried first. A face presentation.
12	29	The greater part of the head had passed through the brim	—	Forty-six hours ....	.....	Recovery	No bad effect	Forceps tried first.
13	30	Great part of the head still above brim ..	1	Above 20 hours	Not stated	Recovery	Perineum torn by shoulders of infant	Forceps tried first.
14	31	Head not completely in the cavity of pelvis	—	.....	Great force ..	Recovery	.....	Forceps tried first.
15	32	Head so low that the ear could be felt	1	Above 72 hours	Great force ..	Recovery	.....	Forceps tried first.
16	34	Head sufficiently low for the forceps	1	So long that she was quite exhausted	Tedious & difficult	Not stated	.....	Forceps tried first.
17	35	Head filled the cavity of the pelvis	1	Above 41 hours	Not without much difficulty	Recovery	.....	Forceps tried first.
18	38	Cavity of the pelvis occupied by a tumour the size of a cricket ball or larger	—	Twenty-four hours	Much difficulty	Recovery	.....	Forceps tried first. Next child delivered naturally at full period.
19	39	Os uteri not fully dilated, thick and rigid, and pressed down with the head through the brim of the pelvis	1	Above 50 hours	Difficult	Not stated	.....	Not able to apply the forceps.
20	40	Head firmly impacted in brim of the pelvis	1	Above 30 hours	Difficult	Recovery	Retention of urine; violent inflammation of vagina; fever	

No. of Case.	No. in Report.	Cause of Obstruction and Delay.	No. of Pregnancy.	Length of Labour before Operation.	Difficulty or not in Extraction.	Death or Recovery of Mother.	Other Results. Inflammation, Sloughing, &c.	Remarks.
21	41	Distortion of pelvis, and hard cicatrix of vagina	—	.....	Not stated	Recovery	.....	Not able to apply the forceps.
22	42	Head jammed in the brim	1	Long in labour	Not stated	Recovery	.....	Convolutions. Forceps tried first.
23	43	Head within reach of forceps	1	.....	Not stated	Death	.....	Face presentation.
24	56	Pelvis distorted	1	Sixty-seven hours	Tedious & difficult	Recovery	Slight uterine inflammation.	Many efforts made at turning.
25	57	Face presentation	—	Above 48 hours	Not stated	Recovery	Hæmorrhage	
26	58	Head and arm	1	Seventy-two hours	Not stated	Recovery	Severe inflammation of uterus	
27	59	Head long fixed in the brim	3	Forty-hours	Difficult	Recovery	.....	
28	60	Head many hours impacted in the brim; vagina swollen and tender	1	Thirty-six hours	Not difficult	Recovery	.....	
29	61	Head in the pelvis, and an ear felt	—	Twenty-four hours	Not stated	Recovery	.....	Vectis and forceps tried first.
30	62	Os uteri rigid and partially dilated. Head compressed in the brim	1	Seventy-two hours	Not stated	Death	Great inflammation and sloughing	
31	63	Head fixed in the brim	1	Above 24 hours	Not stated	Recovery	Gangrene of vagina and external parts	
32	64	Head of child passed into the pelvis. Labia swollen to the size of a child's head	—	First stage very protracted	Not stated	Death	.....	
33	65	Great distortion of the pelvis	1	Thirty-six hours	Not stated	Recovery	.....	Not able to apply the forceps.
34	66	Head fixed in the brim; pelvis small	1	Forty-eight hours	Great force	Recovery	.....	
35	67	Head above the brim	1	Great protraction, (above 24 hours)	Not stated	Recovery	.....	
36	68	Small pelvis; os uteri rigid	1	Forty-six hours	Not stated	Recovery	.....	First tried forceps. Twins.
37	69	Great swelling of soft parts	1	About 72 hours	Not stated	Recovery	.....	Violent puerperal convulsions.
38	70	.....	—	.....	Not stated	Recovery	.....	Placenta prævia.
39	71	Os uteri half dilated	—	Twenty-four hours	Not stated	Recovery	.....	Puerperal convulsions.
40	72	.....	—	.....	Not stated	Recovery	.....	Rupture of uterus.
41	73	.....	2	Above twelve hours	Without much difficulty	Death	.....	
42	74	Distortion of pelvis	—	After great protraction	Not stated	Recovery	.....	Retained placenta.
43	75	Head half through brim	1	Above thirty hours	Not stated	Recovery	.....	Soft parts must have been severely contused.
44	76	Distortion of pelvis; head not in cavity of pelvis	1	About 72 hours	Great force	Recovery	.....	Delivered by craniotomy before.
45	77	Head scarcely entered the brim	—	About 48 hours	Difficult	Recovery	Uterine inflammation	Right parietal bone of the child depressed and fractured.
46	78	Head firmly compressed between sacrum and pubes	—	Forty-eight hours	Great force	Recovery	.....	First child delivered by craniotomy.
47	79	Distortion of pelvis; head in the brim	2	Above 48 hours	Not stated	Recovery	.....	The operation lasted two hours, and the bones of the skull were all torn to pieces before the head could be extracted.
48	80	Distortion of pelvis; head above the brim	1	Thirty-six hours	Slowly	Recovery	.....	Next child delivered without aid.
49	81	Distortion of pelvis, greater part of head still above brim	1	Above 48 hours	Difficulty	Recovery	.....	The breech presented.

No. of Case.	No. in Report.	Cause of Obstruction and Delay.	No. of Pregnancy.	Length of Labour before Operation.	Difficulty or not in Extraction.	Death or Recovery of Mother.	Other Results. Inflammation, Sloughing, &c.	Remarks.
71	103	Head and right arm presenting; os uteri half dilated	2	.....	Not stated	Recovery		
72	104	Head fixed in brim; vagina swollen and tender	—	About 72 hours	Not stated	Recovery		
73	105	Head strongly compressed in the brim; os uteri not fully dilated	—	Above 30 hours ..	Great force ..	Recovery		
74	106	Soft parts immensely swollen	—	Very protracted	Two hours required	Recovery	Retention of urine and sloughing of vagina	
75	107	Head firmly wedged in the brim; vagina swollen and tender	—	Above 78 hours	Great difficulty	Death	Uterine inflammation ..	Perineum slightly lacerated; retained placenta; slight hæmorrhage.
76	108	Head not passed brim	—	Forty-eight hours ..	Easy	Recovery		
77	109	Head impacted in the brim	1	Forty-one hours	Much force ..	Recovery		
78	111	Distortion of the pelvis; head compressed in the pelvis	—	Eighty-six hours ..	Not stated ..	Death		
79	112	Distortion of the pelvis; head not in brim	1	About 48 hours	Great force ..	Recovery		
80	113	Distortion of the pelvis; head above brim	—	Above 62 hours	Not stated ..	Recovery		
81	114	Head above the brim; os uteri not completely dilated	—	Above 78 hours	Not stated ..	Recovery		There was a peculiar thickening at the upper and back part of the vagina, which seemed to arrest the progress of the head.
82	115	Greater part of the head above the brim ...	1	Above 53 hours ..	Force required	Recovery	Inflammation of muscular coat of uterus	
83	116	The head would not pass till perforated, being distended with fluid	—	.....	.....	Death	Inflammation of uterus	
84	117	Head above brim and distended with fluid	1	Nearly sixty hours	Easy	Death		
85	118	Head above brim and distended with fluid	1	Long in labour ..	Easy	Death	Disease of chest; inflammation of veins in pelvis	
86	119	Head distended with fluid .....	—	.....	Easy	Death	Rupture of uterus	Placenta prævia. Child turned first.
87	120	Head distended with fluid	—	Above 21 hours ..	Little difficulty	Death	Rupture of uterus	Child turned.

required to drag the shoulders into the cavity of the pelvis." *Case 77.*—"The operation of craniotomy was difficult." *Case 78.*—"Great force was required to extract the head after being opened." *Case 81.*—"The difficulty experienced in extracting the head with the crotchet after it was opened, proved that delivery could not have been completed by any other method." *Case 84.*—"After the head had been opened, two hours elapsed before I could extract it with the crotchet." *Case 86.*—"The operation lasted nearly five hours, and the head of the fetus could not be drawn through the brim of the pelvis, until the bones of the base of the skull were all torn to pieces with the crotchet." *Case 88.*—"After the perforation, so much force was required to extract the head, as to make it certain that the head could never have been extracted without its size being reduced." *Case 89.*—"I opened the head, and had some difficulty in extracting it." *Case 102.*—"Great force required to extract." *Case 105.*—"The head required great force to extract it after perforation." *Case 106.*—"Two hours required to extract the head with the craniotomy forceps." *Case 107.*—"Great difficulty in extracting the head." *Case 109.*—"So much force required to extract the head that it was obvious it never could have been delivered with the forceps, or expelled by the natural efforts." *Case 112.*—"The extraction required great force." *Case 115.*—"The force required to extract the head after perforation, rendered it obvious that the head could never have passed in the exhausted state in which she was."

own expressions with regard to the degree of difficulty met with in each case, in this, the second part of the operation,—viz., the extraction with the crotchet. In twenty-two of these thirty cases, it is stated that the head of the child was not through the brim at the time craniotomy was performed, but required to be pulled through it with the crotchet. In most of the remaining eight cases, the position of the head at the time of operating is not mentioned.

Out of the thirty cases presenting the subjoined degree of force and difficulty in the extraction of the head, two only of the mothers died. In the remaining fifty-seven cases, either the extraction is noted as easy, or was not so difficult as to have been considered worthy of being noted; and out of these fifty-seven cases, thirteen mothers died. The following arrangement expresses these results in a tabular form:—

TABLE X.

Table of Eighty-seven Craniotomy Cases, reported by Dr. Lee, shewing the Numbers in which Extraction with the Crotchet was—1, noted as difficult; or, 2, not noted as difficult; and the results of these two Classes.

<i>Extraction of the Head after Perforation.</i>	<i>Number of Cases.</i>	<i>Number of Deaths.</i>	<i>Proportion of Deaths.</i>
Noted as difficult ..	30	2	1 in 15
Not noted as such ..	57	13	1 in 4½

These interesting facts evidently point to one conclusion,—viz., that in distorted pelves, the amount of force required for the delivery and extraction of the head of the child, in cases of craniotomy, and hence, also in cases of turning, has far less influence upon the ultimate results and mortality of the operation than we could well have anticipated. But I anxiously desire not to be misunderstood on this point. I by no means wish to maintain, that the degree of force used in delivery has no influence upon the resulting degree of danger and mortality to the mother. Nothing could be more different from either my intentions or my convictions. But the above table shews that in the ordinary forms of distorted pelvis, the degree of force employed for effecting the transit of the head is far less an element of danger than could have been previously imagined; and the explanation of the apparent paradox is, I believe, two-fold. For, first, *temporary* compression applied to two special points in the circle of the pelvis, (as in the case when the child's head is dragged, by operative measures, through a brim contracted only in one diameter,) is by no means so dangerous, as more *prolonged*, though slighter degree of compression of the maternal structures, when the compression is equable, and diffused over the whole circle of the pelvic aperture,

or the whole interior of the pelvic cavity, as in instances in which a hydrocephalic foetal head is pressing like an hydraulic bag, equally, and on all sides. But, secondly, the effect of the law of the influence of force, is counteracted by, and subsidiary to, another law of a far higher degree of practical generalization,—viz., the law which I have illustrated at length in a preceding section, that "the danger attendant upon parturition, increases in a ratio progressive with the increased duration of the labour." And I have little doubt that if we had proper and adequate data for conducting the inquiry, it would be found that the safe result of those craniotomy cases in which force is employed in the delivery, is in a great measure owing to the *time* of the labour at which the delivery is accomplished; and that when the result is fatal, it is as much owing to the previous length or duration of the labour, as to the force employed. Dr. Collins, in his chapter on still-born children, details eight cases of craniotomy in which, after perforation, the extraction of the head with the crotchet required more or less severe exertion and force.* One of the eight patients died, but she

* These eight cases are the following:—1.—"No. 49, was 48 hours in labour of her first child. Having made no progress for the last 24 hours, the pulse becoming extremely quick, with great general debility, the head was lessened, and delivery effected by the crotchet. Considerable difficulty was experienced in getting the head through the pelvis in consequence of the hand having descended with it."—"Practical Treatise," p. 462.)—2. "No. 56, was a diminutive woman, much deformed; had been twice force-delivered in this Hospital, as from the size of the pelvis it was impossible for a child to pass entire; even after the bones of the head were completely broken down, much difficulty was experienced in completing the delivery."—3. "No. 209, was admitted, reported to have been four days in labour, and attended by a midwife; the uterus continued to act strongly, yet after waiting eleven hours the labour made no progress, and as there was no doubt the child was dead, the head was lessened. Many of the bones were removed before the delivery could be completed; the child was large and putrid."—4. "No. 210, after three days labour, the head, still at the brim of the pelvis, was lessened, and almost every bone removed before it could be delivered, and even after it was brought down, much exertion was required to free the shoulders and body. The child was large, and the abdomen somewhat distended with air. The mother seemed at this time almost lifeless, having lost the power of swallowing. The hand was introduced into the uterus, which was quite relaxed, the placenta was gently removed, and the patient expired immediately. On dissection, the uterus was found healthy, but badly contracted, containing a small quantity of coagulated blood; the intestines were in the highest state of congestion, and there was about a pint of fluid in the abdominal cavity, with portions of coagulable lymph in different parts, seemingly the effects of inflammation previous to labour. On opening the chest, the lungs were observed to adhere so firmly as to require the knife in many places to separate them. Nothing was discovered to account for the suddenness of death."—5. "No. 256, was 32 hours in labour previous to admission; her pulse was rapid, and tongue foul. She was delivered some hours after she came in, by lessening the head, which was greatly enlarged from hydrocephalus; there was some difficulty in completing the delivery, even after the bulk of the head had been as much as possible reduced."—6. "No. 303, was admitted reported to have been three days in labour of her first child; the head was low and firmly fixed in the pelvis; the bladder greatly distended with urine,

had been seventy-two hours in labour when the operation was undertaken; all the other seven recovered. In six out of these seven cases, craniotomy was adopted earlier; in one, before the labour had reached sixteen hours in length; in all, before it had passed forty-eight hours from its commencement.

The manner and extent in which the laws of danger attendant upon this and other particular obstetric operations, are controlled by, and absorbed in, the more general law of the attendant mortality, depending upon the length or duration of the labour, have been already illustrated, (see Section IV.,) in reference to delivery by the forceps, and delivery by the crotchet, taken individually. The law and its results, however, are so extremely important as bearing upon the question of the present section, that I will, in further confirmation of it, and at some risk of repetition, throw into a combined form and table, all the forceps and all the craniotomy cases mentioned by Dr. Collins, in which he specifies the duration of the labour. In other words, we will conjoin the two tables previously given in Section IV., into one; and examine how much the maternal mortality was modified in tedious and laborious labours, requiring instrumental aid, by the date of the labour at which that aid was given. Our former tables contained 24 cases delivered by the forceps, and 77 delivered by craniotomy; in all 101 instrumental labours. The results were as follows:—

TABLE XII.

Shewing the Results of 101 Instrumental Deliveries in which the Duration of Labour at the time of the Operation was noted.

<i>Duration of Labour.</i>	<i>Number of Cases.</i>	<i>Number of Deaths.</i>	<i>Proportion of Deaths.</i>
Under 24 hours	32	2	1 in 16 died.
From 25 to 48 hrs	42	6	1 in 7 died.
Above 48 hours	27	11	1 in 2½ died.
Total	101	19	1 in 5 died.

having been retained for thirty hours; pulse 140; tongue dry and white. The catheter was passed and three pints of urine removed. As the abdomen was free from pain, it was thought advisable to watch the effect of uterine action for some time. After waiting five hours, during which the pains were pretty brisk at intervals, still the head made no advance; it was lessened and brought away with the crotchet. There was considerable exertion required to bring down the shoulders; the abdomen was much distended with air, the consequence of putrefaction. She died on the fourth day from delivery."—7. "No. 667, the labour lasted 30 hours; the head was firmly fixed in the pelvis, and had made no progress for twelve hours. As the heart's action had some time ceased, and the mother's pulse

This combined table of Dr. Collins' instrumental deliveries, fully bears out the important conclusion regarding the influence of the antecedent duration of labour, that we have already seen to be derivable from the study of the two operative measures, the forceps and crotchet, taken singly and individually. The evidence of the present table, like the evidence of those previously given, (See Tables Nos. V. and VI.,)* amounts to this,—that the maternal mortality accompanying instrumental delivery, is regulated more by the period of the labour, at which the artificial interference is practised, than by the nature of the operation itself, or by any other contingent circumstance,—the general fatality being decreased in proportion as the operation is performed early, and increased in proportion as it is postponed and delayed longer and longer from the date of the first commencement of parturition. But, admitting that this holds true in regard to instrumental delivery by the forceps and craniotomy, it may be doubted and objected that it perhaps does not hold true in regard to artificial delivery by the operation we propose to employ,—viz., turning. Let us interrogate Dr. Collins' facts, in order to obtain an answer.

In his Report of the Dublin Lying-in Hospital, Dr. Collins gives the result of thirty-three cases, in which turning was practised in consequence of presentation of the shoulder or arm. In one of these cases the placenta presented, and I exclude it as thus containing a source of danger quite independent of the turning. Among the remaining thirty-two cases, there are two deaths, or one in sixteen; and twenty-four in which the date of the duration of the labour, at the time of turning, is stated as ascertainable. In only one of these twenty-four cases, is the labour noted as having exceeded thirty hours in length, and this protracted case was an instance of twins, in which the second child presented preternaturally, and required turning. In twenty-one of the cases the labour was terminated before twenty-four hours; among these one died,—a case complicated before delivery with severe accidental hæmorrhage; in three it was prolonged beyond twenty-four hours, and one of these three mothers died. When arranged in a tabular form, the results are as follows:—

was 140, the head was lessened. Great exertion was necessary to effect delivery in consequence of the head being much ossified."—8. "No. 725, this patient, when admitted, was reported to have been 60 hours in labour; the os uteri was very little dilated, and the head high up in the pelvis. The pains continued constant for 24 hours after she came in, yet the labour made little progress; the mouth of the womb was rigid, jagged, and had the feel of cartilage. The child being dead, as indicated by the stethoscope, the head was lessened and left in that state for some hours, and afterwards cautiously brought down. Considerable force was necessary to complete the delivery, though the child was putrid."

* Journal for 1848, pp. 59 and 60.

TABLE XIII.

Shewing the Mortality accompanying Twenty-four Cases of Turning for presentation of the arm and shoulder, as regulated by the Previous Duration of Labour.

<i>Previous Duration of Labour.</i>	<i>Proportion of Deaths of Mothers.</i>
Below 24 hours	1 in 21 died
Above 24 hours	1 in 3 died

The data in the preceding table are not numerous, but still they will probably be allowed to be sufficient evidence of the fact, that the degree of maternal danger attendant upon turning, as upon other modes of operative delivery, is regulated and modified by the date of the labour at which the delivery is practised; artificial labours, like spontaneous labours, increasing in their mortality in proportion as the previous parturient action has been allowed to be increased and prolonged in its duration and length. Hence, also, necessarily follows the same deductions which I have already more than once adduced, viz.:—

1. A means of artificial delivery, such as turning, which, in cases of pelvic contraction, would enable us to finish the labour at an early date, should, as a general rule, add greatly to the safety and chance of life of the mother, as compared with a means of delivery such as the long forceps or craniotomy, which cannot be usually and legitimately practised till a much later period after the commencement of parturition.

2. The facts I have adduced in the present section shew, that the exertion of force in artificial delivery is attended with comparatively little danger, provided always the delivery is early; and that the employment of it is by no means so hazardous as the simple long continuance and protraction of the labour.

3. All these deductions are only corollaries to the higher and more comprehensive law, that the degree of danger and fatality attendant either upon natural or morbid parturition, increases in a ratio progressive with the increased duration of the labour.

(To be continued.)

CASE OF RHEUMATIC ENDOCARDITIS AND CHOREA, WITH OBSERVATIONS.

By JOHN GABB, M.R.C.S.E., and L.A.C., Bewdley;

James Griffin, aged 12 years, a tailor's apprentice, came home from Kidderminster ill, on Saturday, December 11th, 1847, having been poorly for two or three days previously, chiefly suffering from pains in his back and limbs, the ankles and knees being swollen and tender, declared to be suffering from rheumatism by a medical man who saw him at this time. After coming home he appeared to improve gradually till

the following Thursday, when, in the evening, having been more cheerful than usual during the day, he first complained of a shooting pain, with twitches, up the right side of the neck, which symptoms were followed by involuntary movements of the head and right arm, rolling of the eyes, and an inability to speak for the space of about one hour; his power of utterance then, in a great measure, returned, but without the muscular movements being diminished. During the next two days he gradually became less and less distinct in his utterance, and then again lost all power of speech. At the same time the involuntary movements also increased, the left arm and the legs, in fact the whole muscular system, becoming affected, and up to the present date, December 26th, his mother says he has daily become worse and worse. He was now placed under my care. Since the jactitation commenced he has taken frequently-repeated doses of purgative medicine, which have operated freely upon his bowels, and two days ago his head was shaved, and a blister bound upon the scalp. After the blister had produced its effect, he obtained about two hours sleep, the first for several days and nights. Whilst asleep he was perfectly quiet.

At my first visit I found him lying upon his back, low down in the bed, generally and violently affected with involuntary movements; arms, legs, head, neck, face and eyes, the abdominal muscles, and the muscles of the back, all active, and without the least apparent operation of any directing influence. He was speechless, and unable to make any sign of consciousness, except by means of a low moaning noise, and this noise he constantly made whenever his mother left him for a short time by himself. He was only capable of swallowing a small quantity of fluid at a time, and that with extreme difficulty. The pupils of both eyes were somewhat dilated; the left eye slightly bloodshot. (On his left hand was situated a window, at a short distance from his bed, not very well glazed.) His countenance was pale, with a vacant expression; skin generally pale and cool; tongue slightly furred; pulse quick, with difficulty felt at the wrist, owing to the activity of the arms; heart beating with preternatural impulse; pulsations visible, shaking the surrounding parietes of the chest, and communicating to the hand the sensation of a vibratory thrill, without any apparent increase of dulness on percussion; pressure with the hand upon the region of the heart very perceptibly increasing the movements of every part of the body. The lungs everywhere imparting a healthy resonance on percussion; no unnatural enlargement or hardness about the abdomen; bowels inclined to costiveness; urine scanty and rather high coloured. No sleep since the night before last, the jactitation having apparently kept him awake, which also renders the stethoscope useless in the examination of the heart and lungs.

R. Vin. Aut. Tart., m. xx.; Sp. Æther. Nitr., m. xv.; Aquæ, oz. ss. Sit haust. quartis horis sumend. The following anodyne embrocation for the spine, was ordered to be used night and morning:—Tinct. Opii, Tinct. Belladonnæ, utr., dr. ij.; Lin. Saponis Co., oz. iss.. A dose of Ol. Ricin., Ol. Terebinth. Rect., utr., part. æq., to occasionally operate on the bowels.