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Thesis

on

An obstetric subject

by

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Peebles

S. B. +

On Instrumental Labour

I well remember the advice given on one occasion by Professor Goodsir to those students in his class who were preparing their graduation theses. "Gentlemen, a thesis should not be long, it should be short. It should be a plain question, shortly stated, and distinctly answered."

I shall endeavour to keep this advice in mind; and, believing that one main object in postponing the graduation thesis till the second year after taking the minor degree is to mingle some measure of practical experience with recent professional training, I shall confine myself for proof to cases which have passed through my own hands.

The question I propose to answer is this;
"Is delivery by forceps in all, or in a majority of, cases, safe and justifiable?"

I do not say that it is in all cases necessary, because the absurdity of such a proposition is evident; but, where any cause whatever exists to retard labour, is it not in any case safe and justifiable to hasten it by the use of forceps?

The question cannot be regarded as settled, because it was only lately that in mentioning to a teacher of Midwifery the number of times I had applied the long forceps I was met by the astonished reply "What! forceps at the end of two hours?" In all cases

give her six at least." I believe this is certainly a safe doctrine for beginners, but in such matters every one is entitled to judge for himself, and I know that there are practitioners, both old and young, who still regard the long forceps as a dangerous engine to which turning is at any time preferable. I can honestly say that my own experience leads me to the opposite conclusion and I shall endeavour to show that this conclusion is the right one.

It has often occurred to me to ask myself why, when instrumental interference is so safe and effectual in tedious cases (after all the previous toil and exhaustion which usually occurs has been endured) it should not be so much safer and more effectual when employed early and in simple cases? The answer of course is "You are not justified in incurring possible dangers except to avoid actual ones."

But are the possible dangers such as to make it unjustifiable, and are not the actual troubles such as to make it desirable that the employment of forceps should be the rule and not the exception? If a large and well ossified head can be safely and successfully removed by operative interference after a tedious labour, may not the same head, (and à fortiori a smaller and less ossified one), be still more safely and successfully removed while the uterine energy remains entire? An analysis of the cases which I tabulate in the present essay will furnish

at the end the answer I propose to give to the question *

The general rule that labour is dangerous in proportion to its duration is of course applicable chiefly to the second stage, but I believe that if the first stage be protracted and distressing the effects of the second (whatever its duration) are likely to be modified for the worse. This was forcibly impressed upon my mind by a case which occurred at the commencement of my practice here five years ago. I was sent for at 8 A.M. on the 20th of September to a young woman in her second confinement who was said to have been complaining all night. I found the os wide enough to admit the finger and somewhat rigid. As she was at a considerable distance I remained with her till 4 P.M. and then left. At 11 P.M. things were in much the same condition and I remained till 10 A.M. the following morning. The os was now somewhat wider but the membranes had not even begun to protrude. During all this time the woman's distress was great, and yet it was not till the following morning at 2 A.M. that the os was fully dilated and the first stage completed. I had by this time summoned Dr Innes at the urgent request of the friends, and under his encouragement and direction the labour was completed naturally within an hour after. The placenta came away easily, but the woman never did well and she died with symptoms of pyaemia on the eighth day. Not a particle of retained placenta was found in the uterus though carefully sought for. In such a case I would not now hesitate to dilate and use the long

forceps (if necessary), for though the descent of the head occupied little more than an hour, yet two and a half days of previous suffering were sufficient determine a bad result.

The above seems to me a typical case of danger to the mother from a protracted first stage. On the other hand a protracted second stage (however easy to the mother) is fraught with danger to the child: and of this I can also quote a typical example.

This is the case of an anaemic woman whom I found in labour with her sixth child on the 23^d of January 1868. I was called about 9 P.M. and found the head already well through the os uteri. I sat with her till six A.M., and although by her feeble utterances, as well as by examination I could tell that the pains were not strong, (even when aided by repeated doses of fresh ergot) still, as I had never applied the forceps in my life, I resolved to let nature complete the delivery. Before the hour named the pains had entirely ceased, the woman seemed to be exhausted, and the child was simply sticking fast in the maternal passages. I then went home for the short forceps, applied them carefully, and brought away the child without the slightest difficulty. So effectually however had its long imprisonment in the vagina (even in the absence of strong pressure) destroyed its chance of life that every effort to induce respiration was unavailing.

Between these extremes there is of course

every variety of natural labour, and consequently room for every shade of opinion as to the amount of interference desirable in any particular case.

The question then comes to be this;— "Can a vis à fronte be safely employed in aid of the natural vis à tergo so as to reduce labour as nearly as possible to an ideal standard?

Theoretically speaking such a force skilfully applied is all that is wanting to make the dynamics of labour perfect, and in practice we shall certainly seek in vain for a single parturient woman who does not desire that the process should be completed as quickly, safely, and agreeably as possible.

Are the dangers, then, either to mother or child, in forceps delivery, such as to deter the accoucheur from employing in the majority of cases so powerful a means of shortening the parturient process?

In 363 confinements of which I have kept a record I have used the long forceps 41 times, and the short forceps 33 times. Among these cases there were five still-births. The first (No. 1) was that already referred to, where the child had been lying for nearly twelve hours in the vagina and where death was in no sense attributable to the forceps.
The second (No. 8) was that of a syphilitic girl in whom I found that the child was already putrid.
The third (No. 16) was a primipara in whom albuminuria was present before labour and who

was the subject of rapidly recurring convulsions, unchecked by chloroform and necessitating immediate delivery.
The fourth (No. 26) was what any accoucheur would call a real case for the long forceps. The woman had been in labour all night with her third child, and when I arrived about 7 A.M. the membranes had ruptured and the head was immovably fixed in the brim. About noon I applied the long forceps, but finding that they slipped when I used traction I desisted and allowed things to take their own course. At 2 P.M. there was still not the slightest advance. I therefore chloroformed the patient and again applied the forceps with the same result. The head being firmly ossified and the pains still forcible it was evidently necessary to give assistance, and it was not till the instrument had been eight times applied unsuccessfully that I at last dislodged the ~~child~~ head and drew the child into the world. The scalp was covered with wounds, but it may be permitted to doubt (in the absence of stethoscopic examination) whether the child was not dead before any efforts were made to remove it
The fifth (No. 53) is the same subject as No. 7 of my list. On the former occasion I had delivered her safely with the long forceps after eight hours of the second stage, and this labour was succeeded by a tedious recovery. On this occasion I did not think myself justified in allowing her to go on so long and therefore applied the forceps at the end of four hours, the head being ~~fixed~~ engaged in the brim,

and the cord showing a perpetual tendency to prolapse. In introducing the second blade I was specially careful to keep close to the head so as to avoid compression of the cord. The pull required was an unusually strong one and I took off the forceps before bringing the head quite down to the outlet. The child was born soon afterwards, dead. No mark of compression could be seen upon the cord, such as would certainly have been produced had the instrument grasped it, and I have no doubt that an earlier application of the forceps might have given a better chance of life.

It would surprise any one without experience in the matter to see what an amount and duration of pressure a foetal head will bear with safety. I generally allow myself from three to ten minutes (according to the position of the head) to complete delivery, but I have been occasionally amazed, after half an hour's hard work, to find the child lift up a lusty protest against the most gloomy prognosis.

My experience leads me to the conclusion that in cases where interference is absolutely necessary danger to the child may be reduced to a minimum, while in other cases it should be eliminated altogether, by skilful and judicious management.

What now are the real or supposed dangers to the mother resulting from the application of the forceps?

In my 363 cases I have had two maternal deaths. (I exclude the case formerly mentioned, as I have no record before 1868). The one

of these was from puerperal mania, chiefly occasioned by domestic distress, and the other from the effect of craniotomy. In the first the forceps had not been used, and in the second they were certainly not chargeable with the death. I can hardly, indeed, conceive it possible that lesion sufficient to cause death, or even danger to maternal life, should happen in the hand of any skilful man. The less an unskilful man has to do with midwifery the better. It is the scientific use of the forceps I advocate, and I am disposed to remove this major risk altogether from the list.

I have frequently seen the perineum ruptured, but more frequently and more severely in labours rapidly completed without the forceps than where the forceps have been used to the very end: and for this reason that towards the end of labour the instrument frequently proves useful as a kind of drag, enabling the accoucheur to retard the forehead and chin in their sweep over the perineum, while he at the same time depresses the occiput under the pubes. I generally, however, withdraw the forceps when the head is half born, and this removes every unnecessary cause of stretching.

With fistulae, either recto- or vesico-vaginal, I am entirely unacquainted, and I repeat that I cannot understand how such can occur with even ordinary care.

Sloughing of the vagina I have seen but

once, viz. after a tedious and difficult case of craniotomy where extraction had been all but impossible, and where there had been bad health previous to confinement.

The annoyance most to be feared is, perhaps, the necessity for catheterism for some days after the use of the forceps. Out of the 74 cases I have had to do this in only two, viz No. 29 and No. 32, in the first for eight days and in the second for six. The first however was a hysterical young woman whom I had previously attended for various nervous affections, and it is to be remarked that the first time she voluntarily micturated after the labour was on a day when I was several hours later than usual in calling.

The second was a primipara of 39 who had been eight years married. This was undoubtedly the most difficult successful case of instrumental labour I ever had. So tedious was the operation that I had given up all hope of saving the child and was surprised to find it alive and well. There was some swelling of the parts, so that for the first time I had to expose the patient, but I was thereby enabled to view the comparatively slight amount of injury, even in an unfavourable-looking case, inflicted by the prolonged use of instruments.

The danger of hemorrhage from emptying the uterus too suddenly is one that might arise from unnecessary rapidity in action. In case No. 21, where convulsions occurred and delivery

was effected by the long forceps with the greatest ease, the woman nearly died from flooding immediately after. On the other hand I have seen a parturient woman go about her ordinary work for eleven days with the os uteri fully dilated and the membranes protruding. In this case delivery might easily have been effected immediately, but though I sat a whole night with her I did not think myself justified in the absence of natural efforts (unexhausted) in interfering instrumentally.

As to the kind of forceps employed, whether long or short, I believe that duration in time is a more important factor than the higher or lower point of application. I have used the long forceps 41 times and the short 33 times, and though there is a very decided difference between the extremes, yet there are many cases in which though the head be approaching the outlet the shorter instrument would be inapplicable. I do not however give the name of a long forceps case to any but those in which the instrument is used at the pelvic brim.

I have given chloroform in 45 out of the 74 cases, but compelled as we often are in the country to work in small rooms with the patient cooped up in a box bed I believe it will generally be more satisfactory to proceed without it. It is difficult to limit its administration so as not to suspend in some degree the uterine action, and indeed it is chiefly in cases where the patient has

demanded chloroform that I have been compelled to use the forceps. In a chamber of ten feet square and not more than eight feet high it is difficult to keep a safe atmosphere for any length of time, and consequently it is in the interest of all concerned to have the labour expedited as much as possible. I have made a point of asking every woman who was conscious at the time to be sure and tell me whether I caused any pain in applying the instruments. There are exceptions, but the almost invariable rule is that no pain whatever is caused, while many express the greatest thankfulness at the rapid completion of the labour. In the present state of the public mind concerning chloroform it is satisfactory to be able to assure the patient and attendants that the application of the forceps is painless, and that consequently the anaesthetic is quite unnecessary on that account at least.

The safety and utility of forceps in midwifery can only be decided by experience. If it can be shown that the maternal and foetal mortality are as low when the labour is expedited by means of instruments as when it is left entirely to the natural processes still a considerable advantage is gained by the shortening of it. The mere saving of the accoucheur's time is certainly no argument, but I imagine that if he can put his patient in as little (or less) jeopardy by his timely help as he does by leaving her to nature, his own time (and still more hers) is well saved.

I would not for a moment advocate the employment of instruments by inexperienced hands, but

every man's effort must be tentative at first.
During my first three years of practice I used them only in cases of absolute necessity; but during the last two years I have delivered by forceps 50 times in 171 Confinements. I would proceed with more confidence to extract a foetus from the uterus than most general practitioners would feel in beginning the extraction of a tooth; and indeed I believe in most cases the latter is a much more disagreeable operation for both parties.
As a general rule the risk (if there is any) both to mother and child might be expected to increase in proportion as the point of application is higher, but out of 41 applications of the long forceps I have seen none but recoveries as short and perfect as in the 33 applications of the smaller instrument. As I have already said I believe time to be a more important factor than point of application, provided that be not too early; while duration is of most moment to the child.
During 1871 I used the forceps in one fourth of my cases, during 1872 in one third, and if our patients could be educated up to the belief that the appearance of the instruments did not indicate anything unusual in the case I think that somewhere between these proportions would come to be recognised as the legitimate and proper practice.

One remark I must make in reference to the construction of the forceps. I cannot say I see any particular advantage in the fenestrae-

I believe that flat plates of the same mould, furnished with perforations at equal intervals, such that a lining of some soft substance (to be removed after every case) might be stitched in the same way as some surgeons do with their lithotomy forceps, would prevent the marks that are sometimes left in difficult cases. I have twice seen temporary paralysis of the seventh nerve after the use of forceps, which there was no doubt a protected edge might have prevented.

My general conclusion is that while in many cases delivery by forceps is unnecessary, in every case it is safe, and in a large proportion of cases, say one out of three or four, it is justifiable and advantageous.

Table of Forceps Deliveries

1868

Name	& address	Instrument	Dur: of labour	State of foetus	Date	Complication	chloroform	
Mrs Walden,	Northgate	S. F.	8 hrs	still	Jan 23d		chl.	
Marion Nelson.	ditto	S	4 hrs.	alive	Feb. 4th		none	
Mrs Paterson	Old Inn	S	4 hrs	do	June 27th		chl.	
Mrs Crichton	Skipsigg	L. F.	8 hrs	do	Aug. 14th		chl.	
Mrs Lindsay	W. Happrew	S	5 hrs	.	Nov. 1st	.	chl.	5
Annie Mathieson	Crookston	L	6 hrs	–	Nov. 19th		none	
Mrs Anderson	W. Happrew	L	8 hrs	-	Nov. 26th		none	
Mary Forrest	Old Inn	L		still	Dec. 23d		chl	
1869								
Mrs Gracie	Woodgreen	S	3 hrs	alive	March 5th		chl.	
Mrs Sandilands	Eastgate	S	7 hrs	"	March 8th		none	10
Mrs Moffat	Eshiels	L	2 hrs	still	April 22d	{ placenta prævia; twins	none	

	Name & address		Inst. used	Dur. labour	State of foetus	Date	Complications	Chlorof
	Mrs Mathison,	Peebles	S	4 hrs	alive	April 25th		none
	Helen Scott	do	S	6 hrs	"	May 14th		chl
	Mrs Lockie,	Kingsmuir	S	4 hrs	"	Oct 4th		chl
15	Mrs Ritchie	Eddleston	L	3 hrs		Nov. 27th		chl
	M. Veitch	Virgin Inn	L	3 hrs	still	Dec. 14th	Convulsions	chl
					1870			
	Mrs A. Stirling,	High St.	S	5 hrs	alive	April 27th		chl
	Mrs Scott	Cringletie	S	6 hrs	"	April 28th		chl
	Mrs Pretsell	Stobo	S	3 hrs	"	May 19th		none
20	Mrs Dalgleish	Young St.	S	4 hrs	"	Aug. 19th		none
	Mrs Linton,	Glencraft	L	1 hr	"	Sept 9th	Convulsions	chl
	Mrs Gray	Eshiels	L	2 hrs	"	Sept. 13th		chl
	Mrs Brokie	ditto	S	6 hrs	"	" 22d		chl
	Mrs Sibbald	Stobo	S	6 hrs	"	Dec 10th		none
					1871			
25	Mrs Richardson,	Winkstone	L	7 hrs	"	Feb. 25th		none
	Mrs Cowan,	Cowie's Lyne	L	9 hrs	still	March 7th		chl
	Mrs Brown,	Lyne	S	3 days	alive	" 10th		chl
	Mrs Riddell,	Stewford	L	2 days	"	" 15th		chl
	Mrs Hope,	E. Happrew	L	12 hrs	"	April 2d		chl
30	Mrs Prentice	Shiplaw	S	3 hrs	"	" 13th		chl
	Mrs Robertson,	Elcho St.	S	10 hrs	"	May 8th		chl
	Mrs Minto	Eddleston	L	6 hrs	"	" 28th		chl
	Elizabeth Brydon		S	4 hrs	"	July 12th		none
	Mrs Ramsay,	Winkston	S	5 hrs	"	" 27th		none
35	Mrs Scott,	Peebles	L	?	"	Aug 29th		chl
	Mrs Wright,	do.	S	3 hrs	"	Sept. 12th		chl
	Mrs Cowan	Bridgend	S	2 hrs	"	" 16th		none
	Mrs Small	Eddleston	S	3 hrs	"	" 17th		chl
	Mrs Mitchell	Kidston	L	2 hrs	"	" 23d		none
40	Mrs Hyslop,	Peebles	S	2½ hrs	"	" 27th		none
	Mrs McDonald	do	S	3 hrs	"	" 29th		none
	Mrs Walker	do	S	1 hr	"	Oct. 4th		none
	Mrs Somerville	W. Happrew	L	3 hrs	"	" 5th		none

Name & address		Inst. used	Dur. labour	State of foetus	Date	Complication	Chloroform	
Mrs Kelly	Northgate	I	4 hrs	alive	Oct. 23d		chl.	
Mrs McLaren	do	I	5 hrs	"	" 26th		chl.	45
Mrs Dalling	do	I	?	"	Nov 8th		chl.	
Mrs Gibson	Springhill	I	5 hrs	"	Nov 10th		chl.	
				1872				
Mrs A. Stirling	High St.	I	3 hrs	"	Jan. 4th		chl.	
Mrs Hogg	do	I	4 hrs	"	" 18th		chl.	
Mary Harkins	Old Town	3 Su.	3 hrs	"	Feb 14th		none	50
Mrs Burton	Horsburgh	I	1 hr	"	March 1st	Heart-disease	none	
Mrs Sibbald	Stobo	S	2 hrs	"	2d		none	
Mrs Anderson	W. Happrew	I	3 hrs	Still	" 18th		none	
Mrs Moore	N'gate	S	3 hrs	alive	" 21st		chl.	
R. Somerville	Bonnington	I	4 hrs	"	" 30th		none	55
Mrs Mackay	Kailzie	I	4 hrs	"	April 18th		chl	
Mrs Aitken	do	I	3½ hrs	"	" 20th		none	
Mrs Bruce	Whitebridge	I	4 hrs	"	June 10th		none	
Mrs McLymont	Barns	S	3 hrs	"	July 1st		none	
Mrs Ferguson	Stobo	I	5 hrs	"	July 5th		chl.	60
Mrs Sherburn	Kerfield	S	6 hrs	"	" 22d		chl.	
Mrs Hamman	Craigerne	S	2 hrs	"	Aug. 4th	Splenic disease	none	
Mrs Dalling	High St.	I	3 days	"	" 6th		chl.	
Mrs Oldham	N'gate	S	6 hrs	"	" 7th		none	
Mrs Rennie	High St.	I	4 hrs	"	" 9th		chl.	65
Mrs Whitie	do	I	8 hrs	"	Sept. 8th	Bronchitis	chl.	
Mrs Fraser	Stobo	I	9 hrs	"	" 11th		chl.	
Mrs Muir	Kerfield	I	4 hrs	"	Oct 4th		none	
Mrs Ritchie	Eddleston	I	6 hrs	"	" 12th		chl.	
Mrs Carmichael	Peebles	I	12 hrs	"	" 21st		chl	70
Mrs Spalding	E'gate	I	2 days	"	" 21st		chl	
Mrs Pritchett	Stobo	I	4 hrs	"	Nov 14th		none	
Mrs Clark	Portmore	I	2 days	still	Dec 6th	{Craniotomy afterwards required		
Mrs Ferguson	Peebles	I	8 hrs	alive	" 27th	-	chl	