

THE NORMAL SECOND STAGE OF LABOUR

A Plea for Reform in Its Conduct

BY

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OVER the past twenty-five years many changes have taken place in the conduct of normal labour. One of the most outstanding features is the elimination of the sense of haste in the first stage. Many practising today will not remember the older type of midwife who honestly believed that the speedy end of the ordeal was what mattered to the patient rather than its tolerability. She resisted any suggestion of inducing rest and sleep because of its delaying action and morphia she abhorred. This idea has now virtually disappeared and we have achieved an atmosphere of tranquillity with relaxation of tension by various means. But this atmosphere is still confined to the first stage; the management of the second stage has changed little over the years; the prevailing note is still one of hard work and making haste. This is clearly reiterated in many standard textbooks. Claye (1955) states "the patient should now be working very hard". Greenhill (1955) in his textbook says "the patient is working hard; the process is indeed labour"; he also mentions the veins of the neck standing out, the face being turgid and the body bathed in sweat. Miles (1956) in a midwives' textbook gives detailed instruction on how to teach and encourage the mothers to push, and illustrates how to extract the maximum of effort from them when required. She does however state that the pushing should not start until the head is showing. Moir (1956) and others also teach reservation of forced straining till the head has reached the pelvic floor. De Soldenhoff (1956) specifically states that relaxation should continue during the early part of the second stage

but he too encourages pushing when the head is on the pelvic floor. Many doctors and midwives still seem to consider it their function to aid and abet and even coerce the mother into forcing the foetus as fast as she can through her birth canal.

The question is how much straining is necessary or desirable and when should it be used? The purpose of this paper is to suggest that for most women less straining is required than is practised today and that the minimum is the optimum.

THE SPONTANEOUS SECOND STAGE

If the mother is left entirely to her own intuition in the second stage several important details can be observed.

(1) The amount of voluntary straining is slight until the head begins actively to distend the pelvic floor but thereafter completely involuntary and irresistible straining efforts occur with a mechanism so similar to defaecation as to be almost indistinguishable from it.

(2) This straining mechanism does not come into play at the onset of each uterine contraction or pain; there is a clear interval between the onset of the contraction and the patient's impulse to exert herself.

(3) It is worthy of note that there is often considerable variation in the amount of push behind each pain; some have very little and are short and mild, while others are associated with a strong impulse and great progress.

To demonstrate these features convincingly the patient should have no pre-conceived ideas, nor should she inhibit herself in any way. The second stage usually progresses remarkably well even with heavy sedation and the process can be readily studied in such cases. (This, however, is not to be taken as an advocacy of heavy sedation at this stage of labour.) If the patient who is obviously trying to force the pace can be stopped from pushing altogether for a few pains, and this often requires great persuasion at first, she will usually then fall into the correct rhythm and her better progress and greater ease has to be witnessed to be believed. In practice it has been found necessary to be constantly aware of the tendency in many women towards too early, or too hard pushing. Many patients, it is well known, try to push before full dilatation and insist that they have the urge; we stop them with great conviction. But a considerable number of patients claim to have the urge later who, although fully dilated, will still be much wiser not to push. Jeffcoate (1950) says that it is better to begin expulsive efforts too late than too soon. I would add that it is also better to strain too little than too much.

Two cases are quoted to illustrate these points:

Case 1. Mrs. F. Para-0. Aged 24

Many years ago, before I had even contemplated this method, I was asked to go to this patient who was well on in labour and look after her pending the arrival of her own doctor who was delayed at another confinement. My colleague was particularly anxious to be present at this delivery so I resolved to do nothing to hurry the process unless it was necessary. We ignored the patient's early straining efforts and when finally the head reached the pelvic floor just allowed it to emerge slowly on minimal pushing hoping every minute that her doctor would walk in. The baby (8 pounds 3 ounces) was born before the doctor arrived but with practically no effort on the part of the patient and an intact vagina and perineum. The peacefulness and obvious ease of the birth were most impressive.

Case 2. Mrs. S. Para-0. Aged 32

This was a recent case conducted in a unit which is schooled in minimal pushing. The patient was herself a trained nurse and her obstetrician husband was present. I was called for the delivery and arrived to find the head distending the pelvic floor and the patient exerting herself moderately to expel it. I too thought this was completely spontaneous and irresistible but after watching a few pains and noting the small amount of

progress relative to the patient's effort I became doubtful. The perineum was tense and shiny yet I knew this patient had a good outlet and I had thought also that she had good pelvic floor tissues. Episiotomy seemed indicated but acting on my doubts I asked the patient to try very hard to stop pushing altogether for about ten pains. After a few pains without pushing the labour took on a completely different aspect and with very slight but irresistible straining the head oozed out without any vaginal or perineal laceration whatsoever.

In the first case quoted the reason for not encouraging pushing was purely social but it is common knowledge that in cases where pushing is undesirable or impossible (as in some paralyses) easy labour is remarkably common. The relative ease of cardiac cases is well recognized. F. J. Browne (1955) quotes a forceps rate of less than 5 per cent in cardiac cases in University College Hospital, when no straining has been allowed and states that this is no higher than the rate for the hospital as a whole. It almost seems that the inability to strain may be an advantage. Theoretical explanations for this will be discussed later.

For many years now I have adopted the practice of allowing my patients to follow their own inclination in the second stage, forbidding all mention of pushing by those in attendance. Sometimes considerable patience is required at the beginning of the expulsive stage but the easier advance later fully compensates for this. Those who have witnessed the method have been impressed by the ease of expulsion of the foetal head and by the tranquil atmosphere which can be achieved, but those who are not familiar with the procedure have often expressed difficulty in believing that the duration of the second stage will not be unduly prolonged or the forceps rate rise. It was therefore decided to conduct an independent clinical trial to see if these doubts were with foundation or not.

CLINICAL TRIAL

This trial was carried out at the Sussex Maternity Hospital by two experienced labour ward sisters previously unfamiliar with the method. Normal primigravidae with vertex presentations were assessed; all such cases booked under me and delivered by day were conducted as below; there was no other selection. One hundred consecutive cases were

tested and compared with the total of 393 other normal primigravid vertex deliveries occurring over the same period. The procedure followed was that no suggestion to the patient that she should push was allowed unless the labour was not progressing satisfactorily. No other alteration was made in the routine conduct of the case. If any suggestion was ever necessary the case was recorded as a failure. The results are shown in Figure 1. Of the 100 cases, 83 delivered

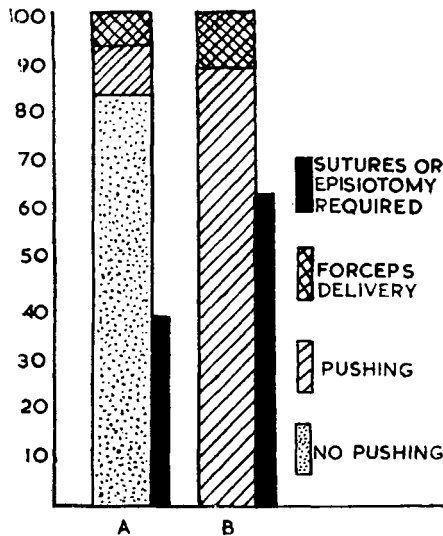


FIG. 1

Results of Labour.

A.—No suggestion of pushing allowed unless it was proved to be necessary.

B.—Pushing encouraged in the usual way.

themselves entirely spontaneously, the average duration of the second stage in them being 1 hour and 3 minutes. One second stage lasted 3 hours but with very infrequent short pains, and one 2 hours and 10 minutes; no others lasted over 2 hours. Fifteen of the 83 babies weighed over 8 pounds, 3 of them being over 9 pounds, and one weighed 10 pounds 9 ounces. Six of the hundred cases ended in forceps delivery despite ultimate encouragement to push, but the forceps rate for the tested cases was still only about half that of the controls (47 of 393 cases=11.9 per cent). This left only 11 cases who could be said to have shown a need for coercion and in 6 of these the decision

that encouragement was required had been reached before the second stage had lasted 2 hours and therefore may have been premature. The suture rate for the group was also less than for the controls; 39 of the 100 required sutures as compared with 63 per cent (249) of the controls. (In calculating these figures episiotomies for whatever indication were included on both sides.)

These results show the effect of conducting the second stage along a pattern which reserves instruction in pushing entirely for those who have proved their need of it. The series was a purely clinical experiment to see if it was possible to refute the idea that labour is of necessity prolonged and the interference rate raised if patients are not taught and encouraged to strain. The sisters conducting the trial, although never advocates of excessive pushing, had not practised the method before nor had I discussed it at length with them. They were selected purposely for their lack of bias, associated with complete reliability and sound clinical judgment. The method has been discussed and practised to a considerable extent in other units under my care and those midwives who have worked with me longest and have really schooled themselves in its use have become increasingly convinced of its value.

THEORETICAL CONSIDERATIONS

That an entirely spontaneous second stage is the ideal mode of delivery can I believe be supported by theoretical as well as practical considerations.

There is first the simple principle that slow distension is less traumatic than sudden or rapid stretching and therefore one would expect less laceration of fascial and muscle layers as well as fewer skin or mucosal tears.

The next consideration concerns the supports of the uterus and of the vaginal vault. If the foetus were to be expelled through the lower uterine segment and vagina only by a piston-like or squeezing action of the upper part of the uterus there would be little tendency to a downward thrust of the cervix or adjoining vagina and therefore no dragging on the transverse cervical ligaments or the connective tissue supports of the vaginal vault. In the truly

spontaneous second stage this very largely applies; it is only when the head has traversed the whole length of the anterior vagina and posteriorly has reached the pelvic floor that outside forces are brought into play. If instead external force is used while the head is gripped by either cervix or vagina the ring of contact will be pushed down and its supports dragged upon (Fig. 2). Here then is a possible aetiological factor in prolapse of the type described by Malpas (1955) as utero-vaginal. That this form

of prolapse may result from pushing before full dilatation of the cervix has long been accepted, but the submission here is that it can also apply in some measure to pushing at any time before the head has impinged forcibly on the pelvic floor. Danforth (1947) has shown that in the Rhesus monkey the level of the cervix rises considerably during the second stage of labour reaching its greatest height toward the end of that stage, but in the human the cervical lips have been shown to rise only to the level of the pelvic inlet (Danforth and Ivy, 1949). The explanation put forward by these writers is that the relatively greater strength or reduced elasticity of the transverse cervical ligament in the human prevents the upward movement. It would seem then that there is a potential pull upward sufficient to resist a downward thrust. The degree of harm to the uterine supports resulting from a downward strain would thus depend on four factors: (1) the amount of strain acting externally on the uterus; (2) the relative amount of counter-pull exerted by the upward trend of the parts above the ligaments; (3) the amount of pull or push acting internally, which would depend on the tightness of fit between head and passages; (4) the strength of the transverse cervical ligament and neighbouring tissues. Elimination of forced straining would favourably affect the first two factors.

The third consideration is in respect of the anterior vaginal wall and supports of the bladder. In a parous woman a roll of vaginal mucosa can frequently be seen being pushed down in front of the head anteriorly. If the patient can be persuaded to stop pushing for a few pains the roll will disappear, and then with far less straining than before the head will be delivered. This tendency to downward stress of the anterior vaginal wall must be present in a primipara, although to a less obvious degree. It is easy to imagine the shearing strain which can thus be produced between the vaginal mucosa and its deeper attachments, and the potential damage to the underlying tissues. This may well be one aetiological factor in the production of stress incontinence, the urethro-vesical junction supports being as it were torn down. Moir (1956) cites the danger of this fold in a discussion on stress incontinence. He

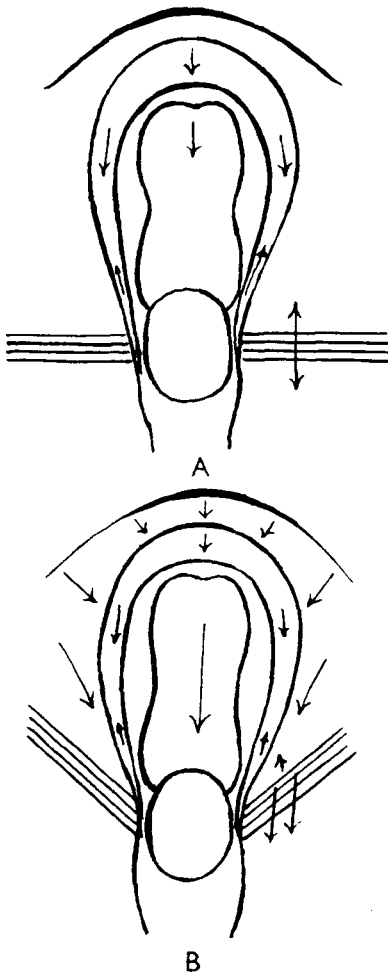


FIG. 2

Stress on transverse cervical ligaments.

A.—Uterine force acting alone.

B.—Secondary powers used while presenting part still gripped by cervix or vagina.

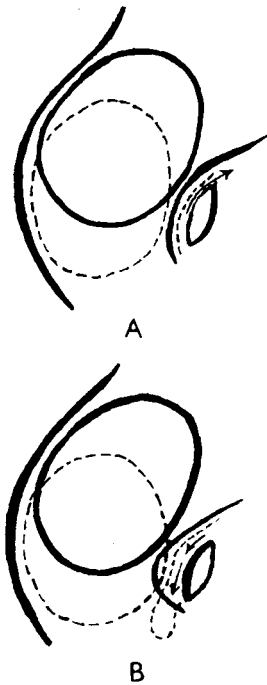


FIG. 3

Stress on the anterior vaginal wall.

A.—Straining late in the contraction only.

B.—Straining from the onset of the contraction.

advises that it should be pushed up, but it will disappear spontaneously with a few contractions if straining is strictly avoided, in other words if this concept of the truly physiological second stage is upheld. Watson (1924) suggested this stripping down of bladder fascia as a cause of stress incontinence. He related it to the pushing down of the anterior lip of the cervix, but it could equally apply to the upper vagina if it were being pushed down by a tightly fitting presenting part. Malpas, Jeffcoate and Lister (1949) and Kanton, Miller and Dunlap (1949) have demonstrated that the bladder base and the urethro-vesical junction are not normally raised in position as labour progresses but that they rotate forward with the descent of the presenting part so that bladder base and urethra come to be in a straight line. It is suggested nevertheless that the earlier part of each contraction pulls the vagina taut and prevents it and the structures beneath it from being pushed down in front of the presenting part. Until this tightening has

taken place it is undesirable that descent of the foetus should occur.

A parallel has been drawn between the birth canal and a coat sleeve; if now we postulate that the sleeve has a potentially loose lining, two further useful parallels can be drawn. First, the slower the arm is thrust down such a sleeve the less is the tendency for the lining to roll out at the wrist. Secondly, if the lining is held firmly at the top during the manœuvre the amount of resistance to the descending arm is considerably reduced, and its passage down the sleeve becomes very much easier.

From time to time it has been suggested that routine episiotomy and even forceps delivery prevent prolapse. It is possible that the knowledge that the instrumental delivery is imminent discourages any forced straining and that it is this absence of straining that produces the better results. Remembering the stress on the uterine and bladder supports there might be a case for forceps delivery in preference to too vigorous pushing when the head is gripped tightly by the birth canal. Such forceps delivery should however utilize the uterine contractions and allow time for the vagina to be drawn taut before each pull is made.

DISCUSSION

If there is no good reason in theory or in practice for hurrying the second stage of labour, why has the habit been prevalent for so long and why does it still persist?

We have in our era progressed towards greater patience in regard to the first stage of labour. We have, also in our era, learned the advantages of a slower and calmer approach to an allied process, namely defaecation. Yet we would seem to have failed to carry the same principles to the expulsive stage of labour. No one would deny that more violent effort is sometimes required in defaecation but it is acknowledged as the exception rather than the ideal. Just so in labour; if some 4 primigravidae in every 5 require no encouragement to violent exertion and are better left to take their own time, surely we are falsifying the whole process by being so ready to dictate to them. Instead of hurrying our patients and forcing advice on them about pushing whether they need such advice or not,

we would be much more usefully engaged in persuading them to take their time and only allowing them to push, and push gently, when the urge is obviously irresistible.

A clear distinction might profitably be made between those labours which are completely normal and those which depart however slightly from that normal. About 80 per cent of primigravid labours and most multiparous labours should come into the first category. These patients are able to deliver themselves instinctively with little more straining than is required in the process of defaecation. All other cases should be put in a different category which would include not only cases requiring operative delivery but also those requiring extra straining efforts. The management of the second category must remain a matter for individual discrimination but surely sound obstetric practice should aim primarily at giving every woman a reasonable chance to achieve complete normality.

Many obstetricians and midwives already feel, and some quite strongly, that too much pushing is being encouraged and they are trying to reduce it; some are also trying to eliminate pushing in the second stage until the head has reached the pelvic floor. Not so long ago obstetricians had to make a stand against the habit of an earlier generation of encouraging pushing from the very onset of labour. Everyone now accepts that pushing before full dilatation is both useless and harmful and condemns it utterly. I make the plea that every stress above the minimum required in any given labour should now be regarded as an unnecessary and unjustified risk to the tissues and therefore should also be vigorously condemned.

SUMMARY

A suggestion is put forward that a review of the present management of the normal second stage of labour is timely and that reform is required.

Some detailed observations are made concerning the completely spontaneous second stage. Particular attention is drawn to an interval which occurs after the onset of each contraction before the natural impulse to strain begins.

The results of a pilot clinical survey are given in which only a minority (11 per cent) of patients showed any need for teaching or coercion in pushing.

The survey showed that the idea is wrong that labour must be unduly prolonged if instruction in pushing is not given.

A regime which reserved instruction for those cases who proved their need for it, showed a considerable reduction in the incidence of both forceps delivery and perineal laceration.

Theoretical reasons are also put forward which suggest that too early and too hard pushing even in the second stage may be harmful to the maternal tissues.

A plea is made for a more vigorous policy to eliminate hurry and unnecessary straining from the conduct of the normal second stage of labour.

I wish to record my thanks to Sister Harry and Sister Bolton of the Sussex Maternity Hospital for their loyal co-operation and untiring help in collecting these figures for me, and to all the doctors and midwives who have co-operated with me there and elsewhere in trying to prove the value of this procedure.

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