

TRIAL LABOUR

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Chassar Moir writes in *Modern Trends* that trial labour has come to mean a management of labour under a policy of strict non-interference, but with everything at hand to perform an operative delivery, abdominal or vaginal, if in the course of time it becomes obvious that the natural forces of labour can not safely overcome the obstruction. A reference to most of the text books gives us an impression that a trial labour is restricted to those cases of mild or moderate degree of disproportion or to a primipara with a floating head in the ninth month with no apparent disproportion. We feel that as the management of certain groups of cases come well under the definition of trial labour they should be really included under the same heading. The groups of cases are as follows.

- A. Cephalo-pelvic disproportion.
- B. Previous caesarean section.
- C. Previous operations on the uterus
- D. Previous destructive vaginal operations.
- E. Previous gynaecological operations.

Cephalo-pelvic disproportion of a moderate or mild degree are selected for a trial. The mild usually deli-

ver spontaneously but the borderline cases are those which require a full test of the trial and cannot be judged during the earlier stages as to their termination.

"Once a caesarean always a caesarean" does not hold good in many cases. For instance, a previous lower segment caesarean section for a disproportion in the first pregnancy does not rule out a trial in the next pregnancy as the foetus (full term) may be smaller than the previous pregnancy, or perhaps the labour in the previous pregnancy had to be terminated because of a maternal or foetal distress. Gibberd feels that in 40 per cent of cases a trial labour is abandoned prematurely not because of disproportion but because of maternal or foetal distress. A case of lower segment caesarean section for a central placenta praevia can also be given as an example for a trial in the subsequent pregnancy when all conditions are normal. In such cases great care must be taken as the behaviour of the cervix and the maternal passages is similar to that of a primipara.

A hysterotomy done particularly for a vesicular mole should be kept strictly under surveillance as we have

come across few cases within a space of a year where a spontaneous rupture of the uterus has occurred at term. A trial labour is not without risks in such cases but it is minimised where a transverse incision has been made on the lower part of the uterus. A similar management should be carried out where a previous premature delivery had occurred.

Previous destructive vaginal operations in our experience do not call for a straight-forward caesarean. Many examples can be quoted where the previous craniotomy had been done in a place with restricted obstetric facilities or where proper medical aid was not available, and in the next pregnancy delivery occurred spontaneously.

Previous gynaecological operations on the cervix or uterus, for example, Fothergill's operation, myomectomy, perforation of the uterus during dilatation and curettage require very close watch during the trial, specially watching the behaviour of the cervix and the uterus.

Management. Whether an enema should or not be given at the onset of labour is a disputed point. It is safer not to give an enema for fear of premature rupture of membranes but as a loaded rectum is an important cause of uterine inertia, it is essential therefore, that the bowels be emptied by a glycerine syringe. It should or not be forgotten that the patient may be in labour for more than 24 hours and so a repetition of the glycerine syringe, or if the head by now has engaged, a hot enema does not only empty the bowels but also gives a fillip to the uterine contractions.

In the early stage diet familiar to the patient is given, as it has a good psychological influence in making the patient feel she is normal. Later, the diet should be light and nutritious. Occasional drinks of milk or milky coffee with some biscuits, or small quantities of rice and curds at the principal meals will be appreciated. We have seen women who at every bearing down pain welled up large quantity of tea. Some have a tendency to vomit when anything is taken by mouth. In such cases an intravenous injection of 25% glucose solution 100 c.c. every 4 to 8 hours will be required. The disadvantage of glucose is that it produces rapid diuresis, and if the head is engaged the bladder will rapidly become over-distended and will have to be catheterized.

As the labour may be prolonged and it may terminate in an instrumental delivery, an injection of vitamin K intramuscularly is given to increase the prothrombin time as prophylactic against intracranial haemorrhage. An injection of penicillin 1 lac six hourly is given as a prophylactic against infection.

Sedation will really depend upon what approach the patient has towards labour. If she is of a nervous type, early and consequently a larger amount of sedation will be required. In the early first stage, a simple mixture of equal parts of chloral and bromide mixture (20 grs. to an ounce) is sufficient sedation till the pains improve. This mixture has a tendency to produce nausea and vomiting in some; therefore it would be preferable to give a mild acting hypnotic like Pentobarbitol or Nembutal $1\frac{1}{2}$

grs. in a capsule. After the contractions improve and become more frequent and well sustained, 100 mg. of inj. pethidine is advisable. It has a good sedative effect and does not harm the child. It can be safely repeated at frequent intervals, and can be given as late as 1 to 2 hrs. before delivery. We have given inj. pethidine during a caesarean section or before applying forceps, with local block, and have not regretted having done so, as no deleterious effects have been seen in any of the babies. It has also a relaxing effect on the cervix. However, patients may get nausea and vomiting, and most patients complain of dizziness; others may become hyper-sensitive rather than sedated. The giving of pethidine is not to be taken lightly as we have seen two cases collapsing with as little an amount as 25 mgms. I.M. An injection of morphia $\frac{1}{4}$ gr. is little used but we feel that it has a definite place in trial labour, specially where uterine inertia has persisted. Morphia definitely has a greater sedative effect than pethidine, but has a disadvantage of producing vomiting in a number of patients.

Radiological methods are not available to us to assess the disproportion, and so we have to fall back on clinical methods. Radiological pelvimetry is extremely helpful in borderline cases to decide whether a trial should be given or not. But accurate pelvimetric measurements are difficult to obtain, as most radiologists do not restrict themselves to obstetric radiology. At the same time, however valuable these methods of obstetric pelvimetry may be, they should be used to supplement

rather than to replace well tried clinical methods. Therefore we fall back on Munro Kerr's statement. "Give me my hands, a pair of callipers and the use of anaesthesia if necessary and I will tell early in labour whether the head will pass through or not upto 6 to 8 per cent error". If a plate is available a most useful one would be the lateral view.

To assess the disproportion we employ either Purandare's or Munro Kerr-Muller method. The Purandare method is done as follows:—

The patient is in the dorsal position, two fingers are placed over the symphysis pubis, the legs are hyperflexed and the fundus is pressed downwards. The overriding of the head over the symphysis gives the degree of disproportion. This method is not infallible. In cases of occipitoposterior position the head seems to be pushed in easily, but this is deceptive on account of the bi-parietal diameters being gripped per abdomen. If the head is lying in the transverse, the head seems to be much larger, and one might make a mistake in assessing the degree of disproportion. The Munro Kerr-Muller method is usually reserved for a later period when the first vaginal examination is done after the onset of labour.

The uterine contractions should improve as the labour progresses in intensity and frequency. This ideal is not always reached and hence failure of trial labour. This important point is discussed in further detail later.

The progress of the head, in relation to the pains, should be carefully watched. In short, if the contrac-

tions are strong, the descent of the head must be correspondingly related. The progress of the head can be best judged per abdomen by keeping an accurate record of the anterior shoulder as regards the descent and rotation of the head. The anterior shoulder, $1\frac{1}{2}$ " above the pubic symphysis in the midline, indicates that the head has reached the level of the ischial spines, and is useful in indicating when the forceps should be applied.

The exact time of rupture of the membranes is important, as the longer the time elapses between the rupture and the delivery the greater the danger to the mother and the child. Marshall's survey in 1949, showed that there was 2.49% maternal mortality after the case was potentially infected and the patient was taken up for lower segment caesarean section. Some patients are admitted with leaking membranes and then the exact time for the rupture of the membranes is not available, though on vaginal examination a lax bag of membranes might be felt. Jhirad feels that in a trial labour when the membranes rupture an immediate flexing of the head with the aid of contractions goes a long way in ensuring a vaginal delivery as the smaller diameter tends to engage.

The foetal heart sounds during the earlier period of the first stage may be kept hourly, but during the second stage a half-hourly record must be kept. Caution must be taken to see that they are recorded during a relaxation only. If an irregularity occurs in the foetal heart, e.g. at first the rate becomes rapid

and then slows down, it is of great prognostic significance, and if a caesarean is performed the foetus may not survive. A parental injection of glucose 25% 100 c.c. with calcium gluconate 10% 10 c.c. plus coramine with oxygen intranasally may tide the foetus over a difficult period, either for a caesarean section, a forceps or a prolonged normal delivery.

Vaginal examination has lost much of the controversy attached to it. Rectal examination is now given up by most obstetricians. The disadvantages have been mentioned by Jhirad who feels that rather than preventing an infection, we rub pathogenic organisms from the vagina into the cervix. The first vaginal examination we feel should be done in the early stages of labour when the uterine contractions have well set in. This examination will help us to judge the capaciousness of the pelvis, the disproportion according to Munro Kerr method, state of the cervix, if the membranes are intact, (if the patient has been brought under care before) and finally feel whether the cord is presenting. Subsequent P.Vs. may not be necessary if the anterior shoulder is carefully followed. However, an examination may become necessary if the patient does not progress in spite of good uterine contractions. In a case of disproportion, with a loosely hanging cervix, thick lipped, not well fitting over the head, and a banana shaped bag of membranes, a serious thought must be given to terminate the labour. If a trial labour is successful after frequent vaginal examinations, we have had no cause for regret as to gross sepsis.

Difficulties may crop up during the course of a trial labour and though each case should be judged individually certain factors may aid in the judgment. Many a time we find that a hasty decision is made before a sufficient trial is given or before the rupture of the membranes—the trial prematurely ending in a caesarean section. We feel that waiting for a full dilatation of the cervix with rupture of the membranes is essential in most cases. In some cases particularly, accompanied by a delay in labour and inertia, an artificial rupture of the membranes is useful in bringing about improved uterine contractions and a rapid dilatation of the cervix. On occasions a head which was biting into the pelvis in spite of strong pains may not descend but as soon as the membranes are artificially ruptured a good descent is obtained and a normal vaginal delivery occurs. The following case is illustrative.

Mrs. U., C.N. 2181 of 1954. VI floating; head deflexed but could be pushed into the pelvis. At 3 fingers' dilatation and in spite of strong pains the head did not progress. She was taken to the operation theatre and the membranes were ruptured after all preparations for a caesarean section were ready. The patient delivered naturally within an hour.

Both the passage and the passenger can be fairly well judged before the onset of labour, but the powers have always been the elusive factor. A trial labour is often accompanied by poor uterine contractions and this is often the important cause in the failure of the trial. We use the

following method to improve the weak uterine contractions.

- (a) Ol. ricini oz. 1 at an early stage of labour has been found to improve the contractions considerably.
- (b) a soap water enema once the head is fixing in the pelvis. This helps in keeping the bowels clear and in reflexly stimulating the uterine contractions.
- (c) the role of sedation has already been discussed above.
- (d) inj. Oestradiol Benzoate 5 mgms one hourly for six injections has shown to improve the uterine contractions.

The trial may have to be terminated if the following conditions arise.

(1) After full dilatation of the cervix and rupture of the membranes, where the progress of the head is unsatisfactory in spite of strong uterine contractions. Some obstetricians feel that at least two hours should elapse before the termination is thought of. We feel that a trial should not be given by the clock but should go more by the condition of the mother and the child. (2) Maternal and foetal distress occur prior to full dilatation or with premature rupture of membranes; it is an indication for terminating the trial. Maternal distress will become evident with the rise of temperature and pulse rate, restlessness, a dry tongue, dry sordes around the mouth, a hot dry vagina, or an elongated shape of the uterus rising upto the xiphisternum may indicate great uterine stress. Stress must be laid on the fact that maternal distress is diagnosed and that the termination due to

this cause is more frequent than it should be. Good nutrition and sedation of the patient will rarely bring about maternal exhaustion. Foetal distress is discussed under foetal heart sounds.

Discussion: Seventy-five successive cases of trial labour have been analysed during the years 1942-43 and 1954, of the Wadia Maternity Hospital. The earlier figures were before the advent of antibiotics and early introduction of chemotherapeutic drugs. For the modes of termination refer to table No. 1.

Low forceps were applied for the following reasons. In 3 cases for weak uterine contractions and delay at the perineum. 4 were applied for foetal distress. One for a previous caesarean section to prevent extra strain on the scar. One was for a case of eclampsia where a trial labour was given and a hastening of the 2nd stage was advisable. The forceps rate in 1942-43 series was practically double (44%). The fall in 1954 may be explained by the fact that cases for trial labour are selected with more care as major degrees of C.P.D. are excluded. Secondly, high

TABLE I
Mode of termination

	Total	Spontaneous	Forceps	Caesarean	Craniotomy
Browne	57	22 38.6%	11 19.3%	23 40.3%	1 1.7%
1954 N.W.M.H.	75	40 53.3%	17 22.6%	16 21.3%	2 2.6%
1942-43 N.W.M.H.	75	33 44.0%	33 44.0%	7 9.3%	2 2.6%

Out of the 75 cases 40 cases (53.3%) were of spontaneous delivery. 17 cases (20.6%) were forceps delivery, out of which midforceps was applied in 8 cases and low forceps in 9 cases. Midforceps were applied for the following reasons:—

- 4 were for foetal distress where the head was arrested at the midcavity and had a large caput.
- 3 were for transverse arrest of the head and were accompanied by a manual rotation. Amongst this one was originally a vertex IV position. One was for weak uterine contractions where the progress was delayed.

forceps has been applied in some cases where the foetal and neonatal mortality has been greater. Such forceps are not applied in the recent series.

Whereas if the caesarean rate is compared, 1954 (21.3%) series has practically double those of 1942-43 series (9.3%). This could be explained that 1942 was the early era of chemo-therapy and late caesarean sections were not advisable due to the danger to the mother. The 16 caesarean sections done in 1954 were for the following indications:

- 2 were done after full dilatation of the cervix and ruptured membranes, one of which was a case

of tentative forceps, that is to say that the patient was prepared for a caesarean section but just before starting, the blades of the forceps were applied and tentative pull was given. We find that this method is quite useful in cases of occipito-posterior which has descended and lies a little above the ischial spines. This method is adopted when a doubt arises whether forceps would not be sufficient to deliver the child.

The pull must not be persistent as Shirodkar says "if the mother descends desist, if the foetus does, continue". We have not found any damage to the foetus after lower segment caesarean section. And some times one may be rewarded by a vaginal delivery. Doing a caesarean section after failed forceps is a disputed point, as the deep engagement of the head makes it difficult in its extraction but at this hospital we have overcome this difficulty by following a method introduced by Patwardhan. By this we mean that the shoulders are first extracted, the arms delivered, the back should be anterior, then the breech is delivered by the operator flexing the spine and the assistant applying fundal pressure. In 14

cases there was no progress in spite of strong pains, and the cervix half dilated. In most of the cases the membranes had ruptured also and there was a non-descent of the head in spite of strong pains.

The object of a trial labour is not to end in a craniotomy but in 2 of our series unavoidable circumstances made us do a craniotomy. The first had an A.P.H. and the foetal heart stopped. Second case also had sudden cessation of the foetal heart for no obvious reason and a spontaneous vaginal delivery was not possible.

The foetal mortality is given in Table II. The foetal mortality in all the three series compares favourably, as far as spontaneous delivery goes. Browne's foetal mortality rate for forceps delivery seems to be high, but these figures are of 1932-41. We cannot give an account of these figures as his text does not give the indications for forceps. In the 1954 series, amongst the spontaneous foetal deaths, one died due to a congenital heart and other abnormalities. In one case there was a sudden cessation of the foetal heart. Two were due to cord prolapse and one caesarean baby died within 24 hours due to an unknown cause.

TABLE II
Foetal mortality

	Total	Spontaneous	Forceps	Caesarean
Browne	15.8%	13.6 %	27.3 %	not given
1954, N.W.M.H.	9.3%	10.0 %	nil	6.25 %
1942-43 N.W.M.H.	12.0%	10.0 %	6.0 %	6.25 %

The maternal mortality is quite favourable in all the series. Browne lost one case due to an incompatible blood transfusion. There were no deaths in the 1954 series, and one death in 1942-43 due to pulmonary embolism.

Summary

1. A brief review of the management of trial labour is given.

2. Two series 1942-43 and 1954 of trial labour are given and the figures analysed.

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