

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCIII.—THURSDAY JULY 1 1875.—NO. 1.

THE OBSTETRIC FORCEPS AS A TIME-SAVER.¹

BY GEORGE E. FRANCIS, M.D., OF WORCESTER.

ABOUT twenty-five years ago Professor Simpson, of Edinburgh, asserted that “the mortality attendant upon parturition increases in a ratio progressive with the increased duration of the labor.”

In 1829, Dr. John Beatty, of Dublin, having then attended more than five thousand labors in private practice, gave this testimony: “With respect to the ill effects said to follow the use of the forceps, I am bold to say that though I have read and heard of such, I have never witnessed any, when the instrument was used in time, or with proper discrimination and dexterity, and when the patient was not already too much exhausted; and from the success that has attended the use of the forceps in my hands, I might also assert that no unpleasant consequences can occur, provided the proper time be selected.”

To look into the truth of these two propositions, and to study the results of combining them, are the objects of this brief paper.

The law proclaimed by Simpson was reached by analyzing the reports given by Dr. Collins of nearly sixteen thousand deliveries in the Dublin Lying-in Hospital. When these cases were tabulated according to the length of the labor, it at once appeared that the death-rate was lowest in the column of shortest labors, and that it steadily increased until its maximum was reached in the longest ones.

Ten years afterwards Mr. Harper made similar use of Johnston and Sinclair’s reports of later cases in the same hospital, but treating only the *natural* labors, about twelve thousand in number. His results are to be found in the first volume of the Transactions of the London Obstetrical Society, and in their briefest form are as follows:—

Length of Labor.	Maternal Deaths.	Still-Births.
6 hours or under	1 in 470	1 in 71
7 to 12 hours	1 in 214	1 in 64
13 to 24 hours	1 in 145	1 in 31
Above 24 hours	1 in 21	1 in 5

It should be said that in forming this table the maternal deaths from

¹ Read at the Annual Meeting of the Massachusetts Medical Society.

non-puerperal causes have not been counted. It happens, however, that the general results are the same if we reckon *all* the deaths among the mothers.

"These results," Mr. Harper says, "are drawn from all those labors which are perfectly natural and uncomplicated with any secondary peculiarity which would modify or in any way alter their character. None of them were instrumental, but all were begun and finished by natural efforts alone. All foot, breech, arm, and placental presentations, as well as forceps and craniotomy cases, are thus excluded; the main object being to prove that mere duration alone, without any additional or abnormal circumstance, is the great element in rendering labor dangerous." "In proportion to increased duration is there a rapidly increasing rate of danger and mortality," to both mothers and children.

The deduction made by Simpson and Harper seems to be well drawn, since all of the cases were sufficiently alike to be compared, and were exposed to identical influences, — length of labor being, so far as we can see, the one condition which varied.

However true this law, it is of little use to us without an essential qualification which Simpson seems to have overlooked. In the words of Churchill, "delay in the first stage" (up to the passage of the head through the os uteri), "involves *per se* very little if any danger, no matter how tedious it may be; but delay in the second stage, beyond a comparatively short time, is always of serious import." This point is agreed upon by obstetric authorities, and needs no discussion.

Then Simpson's law of the relation between time and the death-rate applies especially to the second stage of labor: therefore, after the os is dilated, and the head begins to descend, it is our duty to save all the time we can, in order to lessen the danger.

The obstetric forceps being the most efficient means of shortening this second stage of labor, we have next to see whether or not it is a *safe* instrument, in order to learn whether we may properly use it to lessen danger by saving time.

In opposition to Dr. Beatty's very favorable testimony already quoted, listen to his contemporary, Dr. Clarke, an equally famous obstetrician: "It is certain that a labor really tedious under the best management is not without danger both to mother and child. I am, however, fully convinced that this danger is seldom lessened by the common expedient of extracting instruments" (meaning forceps). "Cases of convulsions excepted, I have rarely had reason to be pleased with the effects of extracting instruments, and not unfrequently have I had much reason to deprecate their evil consequences."

Here are two representative opinions, as wide apart as they well can be; without doubt they are both well founded. The simple fact is, that

these eminent men had in view two distinct operations, the early and the late application of the forceps, — operations so different in their nature and results that just estimates of them must widely differ. Dr. Clarke used the forceps only after hours of delay, or even impaction, as the last resource which left the child a chance of living; the mischief which he and plenty more have found to follow such forceps deliveries is ascribed by them to the instrument rather than to the conditions which the instrument relieved. You will observe that the only reservation in Dr. Clarke's sweeping condemnation is in cases of convulsions, when the early operation was forced upon him.

Dr. Beatty, who used his forceps to prevent the evils of delay, found it a harmless instrument. To use his own language once more: "In no instance of the one hundred and eleven cases did any unpleasant result follow; none of the mothers died, none of them had the perinæum lacerated, nor any of those evils which are set forth as the effects of the forceps; and still more, all of the children that we had reason to think were alive at the commencement, were born living, and none of the whole number had any injury or mark whatever inflicted by the instrument."

This must be allowed to be strong evidence as to the harmlessness of the forceps when used early, before the mother's strength is exhausted, and especially before the soft parts have become swollen and devitalized by long pressure.

So far as I know, all the testimony against the forceps comes from those who have used them late; while all who report the results of the early operation agree in substance with Dr. Beatty.

Dr. Churchill's treatment of this subject is somewhat curious: having collected statistics of forceps operations from every available source, he shows that they have, on the whole, been attended with decidedly less mortality than is found in tedious labors left to nature; and he goes on to point out the obvious fact, that those who have used the forceps most freely have saved the most lives. In his own mild words, "to those who, like myself, regard the wider employment of the forceps as the best mode of diminishing the frequency of the employment of craniotomy, it is a matter of rejoicing to find this instrument increasingly employed, and that with each enlargement of our statistics the death-rate for mother and child has diminished." As he had already shown the danger of delay in the second stage of labor, it seems strange enough for so acute a writer to forthwith lay down the rule, that "in no case is the forceps to be applied until we are perfectly satisfied that the obstacle cannot be overcome by the natural powers with safety to the mother and child;" which is practically the same as to say, "run the risks of tedious labor rather than the lesser risks of the forceps."

It seems to me that Dr. Churchill's premises logically lead to this

very different conclusion: *the presumption is decidedly in favor of the early and frequent use of the forceps.*

Just how early or how often the instrument may be most successfully used can only be learned by studying the results of practice based upon this presumption.

Here we are indebted to Dr. Hamilton, of Falkirk, who has published his views and experience in various journals, particularly in the *Medico-Chirurgical Review* for April, 1853, and October, 1871, and in the *Edinburgh Medical Journal* for May, 1855, and October, 1861. The distinctive features of his practice are, to interfere very little until the os is well dilated; to make sure that the anterior lip of the uterus is not pushed down by the advancing head; then if the labor is not over within two hours, to deliver by the forceps.

The results which he reports are in brief these: the forceps were used in one seventh of the cases; the death-rate among the children was small beyond all precedent; for instance, he tells us of one series of seven hundred and thirty-one successive births of living children; the maternal mortality is nowhere definitely stated, but is said to be "very satisfactory." During thirty years he had not once to use the catheter in his own midwifery practice. He found the parts of the mother never to be more injured than in an easy, natural labor; rupture of the perinæum never once occurred in his whole experience, which in this respect is so unlike that reported by most good authorities as to throw a shade of doubt, not upon his honesty, but upon the accuracy of his observation; but this is a point concerning which error and oversight are easy and common. I am aware of no other published statistics of cases treated as his were, and this is my excuse for bringing before you a very short analysis of the last three hundred cases of head presentation occurring under my own care.

There were three hundred and one children, all born alive but four; of these one was believed to be dead when labor set in; one was a monstrosity, and one owed its death to prolapse of the cord. One child, born a month too soon, died in twelve hours; the remaining two hundred and ninety-six lived at least a week. In the last one hundred and thirty-eight cases there have been no still-births.

Three of the mothers died; one of them was at the point of death when first seen, probably from pulmonary thrombosis, and the child being nearly born was safely extracted at the very moment its mother died; another had erysipelas when labor set in, and died of blood-poisoning; the third was apparently exhausted by a very long first stage in which no interference was permitted; by the time the os was dilated she was in high fever. There have been no deaths in the one hundred and seventy-nine women last delivered. While it is true that the forceps was used in all three fatal cases, I see no reason to think that the operation affected the result in either of them.

After delivery the perinæum was always examined, and in but one case, which by the way was not instrumental, was there found sufficient tearing to need a stitch.

Almost all of these three hundred labors were completed within two hours after dilatation of the os; and to secure this end the forceps were used fifty-one times, once in six cases.

The application of the instrument rarely gave any more pain than the previous digital examination, and never required anæsthesia.

The catheter was not once required either during or after the confinement.

These statistics, as you will observe, are based upon the arbitrary limit of two hours for the second stage of labor; if a *standard* limit is ever found, it will only be through the study of many such reports. Meanwhile one result should not be overlooked, — the great and obvious saving of suffering and anxiety to the parturient woman and all about her.

I have tried to give you an outline sketch of the facts which go to show, first, that lapse of time in the second stage of labor brings increasing danger; second, that the forceps are not necessarily a dangerous instrument; and finally, that the experience of those who have used the forceps freely, to save time and avoid danger, is by no means unsatisfactory.

My purpose has been not so much to convince as to stimulate to thought and study upon an important practical question, and I have not hesitated to pass over many points of interest and importance for the sake of brevity and of keeping the main question clearly in view. Should it happen that a single hearer is led by this essay to use his forceps oftener than he did before, I should regret the fact without feeling any responsibility for it, since no man has a right to form or change his views upon a weighty matter without a much more thorough consideration than is possible within the limits of such a paper. A man so easily turned is by nature unfit for the practice of medicine, least of all fit for midwifery, which demands a well-stored and steadfast mind in a healthy and serviceable body, and above and ruling them both, a lively conscience; a conscience that never allows him to approach a woman in childbed without the feeling that two lives are trusted in his hands; a conscience that keeps this sense of responsibility always so close to him that there is no room for small and selfish motives to enter.

Conscience should hold us never more firmly than when we decide upon the use of a powerful instrument or remedy; we cannot shirk responsibilities for misusing it through carelessness or ignorance; neither are we blameless if we fear its power and fail to use it in the hour of need.