THE PROGNOSIS OF CESAREAN OPERATIONS.

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THERE is no question as to the formidable character of the Cesarean operation. Michaelis[1] collected 258 authentic cases, of which 54 per cent recovered. Kayser[2] added 80 new cases to those reported by Michaelis, and thereby reduced the recoveries to 38 per cent. Mayer[3] gathered 1,605 cases, with 54 per cent recoveries. Pihan Dufeilhay[4] collected 84 cases published between 1845–49, of which 57 per cent recovered. Finally, Dr. R. P. Harris has gathered with great industry the histories of 110 cases performed in America, of which 46 per cent recovered. Under this showing it will be seen that fully one-half of all the Cesarean operations end fatally. Large, however, as the mortality appears, the results are, I have no doubt, much more favorable than would be obtained from a similar number of craniotomies, which should include, as the statistics of the Cesarean section do, the work of many unskilled hands. But it has been objected to the statistics that they do not even approximatively represent the truth. It is well known that many cases have never been included in the large collections. By some it has been assumed that the unpublished and omitted cases have all been fatal ones. Stoltz,[5] however, reports that he knew of five successful operations not contained in Kayser's statistics, though they had been published during the period embraced in his calculations. Harris collected 47 cases by correspondence with practitioners in various sections of the country; of these 14 recovered and 33 died. In Mayer's statistics the recoveries from the operation in America were placed at 33 per cent; while, as we have seen, Harris found

[1] Michaelis: Abhandlungen aus dem Gebiete der Geburtshülfe, 1833.
[2] Kayser: De Eventu Sectionis Cæsareæ, 1868, No. 67.
[3] Mayer: Notice by Bromeisl, Wiener Med. Wochensch.
[4] Pihan Dufeilhay: Arch. Gén. de Méd., T. VI., 1861
[5] Michaelis, l. c., s. 156.

them to have amounted to 46 per cent. Thus it is by no means certain that statistics present the Cesarean operation in too favorable a light. The habitual indifference of the rural practitioner to the publication of his triumphs is one of his besetting sins. While admitting that the whole question is purely a matter of speculation, it is at the same time quite probable that a goodly number of successes, as well as of failures, lie buried, to use the words of Stoltz, in the note-books of modest physicians. If, however, we drop the numerical method altogether, and devote ourselves to a careful study of the cases upon which our statistics are built, we leave the mists of uncertainty, and are able to plant ourselves upon tolerably firm ground.

Now the first pertinent fact that strikes us in examining the tabulated cases of Cesarean section is, that a very large proportion of the entire number have been derived from the reports of lying-in hospitals. Michaelis[1] found that of 96 cases, the details of which were given with sufficient minuteness to leave no doubt concerning this point, 36, or rather more than a third of the entire number, were hospital patients. With astonishment, too, he noticed that 25 of the 36 died, and that only 11 recovered; whereas, of the 60 cases in private practice, only 29 died, while 31 recovered. This remarkable discrepancy in the result was such that Michaelis could not at first believe his eyes. When he found, however, that there was no possible source of error in his figures, he sought to account for the mortality in hospitals on the ground that the latter are the receptacles of all the most unpromising and hopeless class of cases, while the private practitioner more often has to deal with women in good health, and with slight degrees of deformity. Then he insinuates that the private physician does not usually care to stake his reputation upon an operation which, probably, will terminate fatally, but that, between weighing the case, and summoning counsel, and putting off action, the woman often dies undelivered before a decision is reached. Kayser's results were even worse than those of Michaelis, for in 67 hospital cases, he found the mortality 79 per cent. Späth says there has not been a single case in the Lying-in Hospital in Vienna, during this century, in which

[1] Vide Baudon: L'ovotomie abdominale, p. 101.

the mother has survived. Bauden, writing in 1873, says: "In Paris there has been not one successful case in eighty years, though in the present century the operation has been performed on perhaps as many as fifty women." This statement is often quoted as a crushing rejoinder to those who claim that the time has not yet come for sweeping the Cesarean section from the list of legitimate obstetrical operations. But as we glance over the list of operators, and find fourteen deaths accredited to Sentin, seventeen deaths to Paul Dubois, four deaths to De Paul, three deaths to Danyau, two deaths to Tarnier, and several to Moreau, we find in the ghastly record only fresh evidence that there is little hope for the success of abdominal surgery, whatever the skill of the operator, when performed in the putrid atmosphere of an infected hospital.

On the other hand, the results of the Cesarean section in healthy rural localities are in striking contrast with those obtained in hospitals, or even in large, overcrowded cities. Thus Stoltz mentions that in the Department of the Creuse the operation was performed six times, between the years 1843 to 1852, and in every case with success.[1] Hoebecke operated sixteen times in the country, and though his patients were poor and so scattered that he was not able to visit them as frequently as was desirable, eleven of them recovered. Maslieurat-Lagemard operated six times in the country; all of his patients recovered.[2] Prevost had three successes in four operations. Cottmann and Pilate each had two successful cases. In Ohio, Harris reports six recoveries in eight operations; in Louisiana, fourteen recoveries in eighteen operations.

Now it does not seem logical, when such successes have been obtained in certain districts by certain operators, to place the Cesarean section under the ban, because other operators in other localities have failed altogether. No one reasoned, after the triumphs of Clay, Peaslee, and Spencer Wells, that ovariotomy should be proscribed, because contemporaneously in France and Germany the extirpation of ovarian cysts had been almost constantly followed by death. Certainly the

[1] Stoltz, op. cit., p. 689.

[2] Baudon: L'ovotomie abdominale, s. 106.

[3] Harris: Cesarean Cases in Ohio. Obstetric Gazette, Sept., 1878, p. 99. New Orleans Med. and Surg. Journal, Vol. VI., 1878–9. In this article are related the successes quoted above of Prevost, Cottmann, and Pilate.

intelligent course to pursue always, in the face of conflicting results, is to sift out the reasons for failure on the one hand, and the conditions of success on the other.

If we begin by asking why the Cesarean section has so often ended fatally, we have already found the answer for many cases in the fact that the patients were operated upon in the impure atmosphere of maternity hospitals. The frequency with which gangrene of the uterine wound is mentioned in the post-mortem records bespeaks the prevalence and activity of septic germs. Ovarian cases placed in the midst of similar unwholesome surroundings die almost certainly, in spite of the skill of the operator. Again, the accounts of the cases which have come down to us shed a deal of light upon the causes of the untoward results. I have before me the histories of 108 cases collected by Michaelis, and published by him in 1832. They all belong to the 19th century, and are of undoubted authenticity. Moreover, they are included in all the statistical tables which have since been published. In the entire number there were 61 deaths. In 34 of the fatal cases, the histories given are tolerably explicit. From these accounts I gathered the following suggestive particulars.

Cesarean section performed upon a corpse.

Case of ruptured uterus. Cesarean section the day following the rupture.

Ritgen's unsuccessful case of laparo-elytrotomy. As "the strength of his patient was failing fast," owing to the hemorrhage of the vaginal wound, and as "the contractions of the uterus had entirely ceased," the Cesarean section was performed to save the life of the child.

In four cases, Cesarean section was first tried after prolonged but vain attempts at delivery by forceps and version. In another, it was first resorted to after the failure of craniotomy.

One operator extended his incision to the os uteri.

Two cases were complicated with eclampsia, and one with placenta previa.

In one case, the operation was performed six days after the membranes had ruptured. The bladder had to be previously punctured. The fetus was putrid.

To control hemorrhage, Ritgen in one instance tied nine arteries in the uterine wound.

In one patient, the operation was deferred until peritonitis had set in.

There were two cases of neglected shoulder presentation. In the one, the operation was performed four days after the rupture of the membranes, and in the other, thirty hours. In the latter, the uterine tissues were found necrosed from pressure, between the promontory and the presenting part.

In one case, the operation was performed by violence, in spite of the protests and struggles of the patient.

There were a number of women upon whom the operation was repeated in a succession of pregnancies. Of these, two died after the second operation, and three after the third. In one of the latter series, the patient seemed to be doing well until the 27th day, when she got out of bed and sat by an open window for an hour, to watch the passing of a troop of soldiers. The wound gaped open, and death followed the same day.

In one patient, the first days of danger were passed, and the wound promised to heal kindly, when the brother, disappointed in the expected succession to her property, beat the woman, whereupon the wound tore open, and fatal fever followed.

In another, all went well until the seventh day, when, delighted at the prospects of recovery, the patient jumped from bed, danced around, and swallowed a pint of brandy.

In two cases, death resulted from the protrusion of the intestines from the abdominal wound subsequent to the operation. In one, this occurred on the third day. The physician, who operated with a razor, and used no bandage or adhesive straps to support the abdomen, did not see his patient after the operation until the accident referred to had taken place. In the other, two inches of the abdominal wound was intentionally left open. Vomiting set in, and the bowels were forced through the gap.

The injurious effects of protracted labor upon otherwise perfectly natural deliveries are well known. In contracted pelves, in addition to the exhaustion and nervous depression which follows in long labors, the pain, the loss of sleep, and the inability to take food, the outlook of the patient is still further darkened by the early and complete escape of the amniotic

fluid, the consequent retraction of the uterus upon the fetus, the bruising of the maternal tissues from pressure of the child's head, and at times from perforation or even rupture of the uterus. A priori, therefore, one would expect that every hour's delay, after the Cesarean section had once been decided upon as necessary, would imperil the result. This deduction is fully justified by the facts. Thus Dufeilhay's statistics showed that, when the Cesarean operation is performed before the woman becomes exhausted, 81 per cent recovered. Harris collected 26 cases of timely operation, which ended in the saving of 19 mothers, or upward of 73 per cent. If now we return to the fatal cases reported by Michaelis, we find, in addition to those few the histories of which we have quoted, two operations performed 24 hours after the rupture of the membranes; two, 48 hours; one, 72 hours; and one, 96 hours. Two operations were performed 2 days from the beginning of labor; two, 5 days; and one, 8 days after.

Thus we find that, in more than one-half of Michaelis' reported fatal cases, the operation was performed upon the dead and the dying, or under circumstances which reduced the chances of success to a slender possibility. How far the remaining cases are open to the same criticism it is impossible to say, owing to the defectiveness of the histories.

Now Dr. Barnes says with great truth: "Obviously we cannot recognize fatal cases of craniotomy in extreme deformity, say of conjugate diameter reduced to 2″ or 1.75″, unless the operation was begun under selected circumstances, that is, before exhaustion had set in, and conducted with due skill and after the most approved methods." [1]

But have we not an equal right to refuse to recognize fatal cases of Cesarean section, in which the conditions and methods of the operation were such as to recall the words of Mauriceau: "If it is true that any women have escaped, it was the work of a miracle, or the express wish of God, who, if he wills it, is able to raise the dead, as he did Lazarus . . . rather than by any effect of human prudence."

[1] Barnes: Obstetrical Operations. D. Appleton, p. 418.