

ABSTRACT OF  
STATISTICS OF THE MONTREAL MATERNITY  
HOSPITAL.

COMPILED BY W. A. DE WOLF SMITH, M.D. &c.,  
PHYSICIAN TO THE MONTREAL DISPENSARY.

THE following is a collection of statistics gathered from the register of the Montreal Maternity Hospital, a small building situated in a very unfavourable part of the city, and possessing very inferior accommodation for the patients, the attendants, and the students who learn the practical part of midwifery at it.

Some years ago the hospital admitted about 130 patients a year, but lately, owing to the fact that the Western Women's Hospital has come into competition with it, the number has fallen to an annual average of less than 100. There is a list of patients' names entered in the register from 1844, but no particulars are given with any of the cases until 1851, and these observations are brought up to the end of 1883—a period of thirty-three years. During this time 3483 patients were admitted, an average of 106 a year. The number of children born in the institution was 3520, there having been thirty-five cases of twins and one case of triplets. The time spent in hospital is not of much importance, but it may be noted that the shortest time spent there was one day—four patients having been in for that length of time only. The longest stay in hospital was 213 days, while the average number of days spent by each patient was twenty-seven. The time of the year does not seem to have had much influence on the births. The largest number of children were born in April, and the other months follow in this order—May, June, October, July, January, November, February, December, March, August, and September, the numbers declining very evenly, however. This differs from Dr. Sutton of Kentucky, as quoted by Dr. Carpenter, who gives the greatest number of births in December and the fewest in January. Dividing the year into quarters, the largest number of births, 973, occurred in the second quarter, 844 in the fourth quarter, 825 in the first quarter, and the smallest number, 815, in the third quarter. This arrangement may be due to the smallness of the numbers considered, as Dr. E. M. Snow, in his report for 1885 to the City of Providence, gives statistics for thirty years, in which the largest number of births, 8459, occur in the fourth quarter, 8149 in the second quarter, 8065 in the third quarter, and 7929 in the first quarter.

The ages of the patients admitted show the greatest range, running all the way from thirteen to forty-eight. Three patients were admitted at thirteen years of age, and two at fourteen. Dr. MacCallum quotes one of the former in his report of the institution, published in 1879. She was, to quote from the report, "a private patient, and when admitted was in short dresses. Although she was short in stature, her hips were wide and her chest well developed. Some days before labour set in an examination of the pelvis was made with Dr. Lumley Earle's pelvimeter. The bulbed extremities could be separated at the brim to the extent of three inches and a half without causing pain, and we therefore concluded that no obstruction would be offered to the passage of the head from narrowing of the conjugate. . . . Her labour was natural, of ten hours' duration, and she gave birth to a male child weighing 7 lb. 1 oz. She was confined on Sept. 13th, 1869, and her fourteenth birthday was in the following month of December." There were fifteen patients admitted over forty years of age, the two oldest being forty-six and forty-eight years of age respectively. The greatest number of patients were admitted at twenty-two years of age, while those at twenty and twenty-four years come next. The average age of all patients admitted was twenty-five. The majority of the patients have been Canadian, though previous to 1869 the majority were Irish—a circumstance which, I think, may be explained by the fact that while the Imperial troops were stationed here the wives of many of the men were confined in the hospital.

The great majority of the labours have been natural, over 93 per cent. having been of that description. A number which would otherwise have been protracted have, I am sure, been shortened in duration by the administration of chloral, now much used in the hospital, alone or in connexion with hot-

water douches in cases of rigidity of the parts. In over 90 per cent. of the cases—3404 out of 3558—the head presented. Breech presentations occurred in ninety-eight, footling thirty, and knee three times; the frequency of breech presentations being one in 36.3 cases, this being more frequent than is given by Churchill, and a little more frequent than according to Ramsbotham. Footling presentations occurred once in 1186 cases, and knee presentations once in 1186 cases, this being nearly three times the frequency given by Madame Lachapelle. Placenta prævia occurred in three cases, and the face presented in eight. The age of the patient does not seem to have had much influence on the duration of labour, nor does the fact of the mother being a primipara or multipara. The duration of labour was as follows:—

Under 1 hour	... ..	71 cases.
From 1 to 4 hours	... ..	672 "
" 4 to 8	" ... ..	921 "
" 8 to 12	" ... ..	654 "
" 12 to 16	" ... ..	472 "
" 16 to 20	" ... ..	172 "
" 20 to 24	" ... ..	96 "
" 24 to 48	" ... ..	249 "
" 48 to 72	" ... ..	35 "
" 72 to 120	" ... ..	10 "

One case lasted seven and another ten days. Thus it is seen that by far the largest number of deliveries were terminated inside of twelve hours. The average duration of labour in 3359 cases was ten hours and twenty minutes, being slightly over the average given by Dr. MacCallum in his report. The average time before delivery at which the membranes ruptured was three hours and a half. In one case they ruptured 120 hours, and in three cases they ruptured ninety-six hours, before delivery; while in 250 cases they ruptured at the moment of delivery. The sex of the child is given in 3477 cases. Of these, 1783 were males, 1689 females—a proportion of 105.85 males to 100 females—this being about the general proportion as regards legitimate children, but somewhat higher than common amongst illegitimate children, which, of course, most of these were.

While there is a predominance in the number of male children born, they also, as an average, are larger in size and weight than female children. The average length of all children born in the hospital was 19.75 in., or, excluding premature births, 19.88 in. The average weight of all children born in the hospital was 7 lb. 10.3 oz., or, excluding premature births as before, 7 lb. 12.3 oz. Three children were born measuring 30 in. in length, and five measured 28 in. There were two children (twins) born alive weighing 2.3 lb. each, but they soon died. Thirteen weighed between 11 lb. and 12 lb., and one each 13 lb., 16 lb., and 16.3 lb. respectively. The average weight of male children was 7 lb. 12.3 oz., the heaviest weighing 13 lb. The average length of male children was 20.3 in., the longest being 30 in. Female children averaged 7 lb. 6.3 oz. in weight, although the largest female child weighed 16.3 lb., or more than any male. Their average length was 19.1.2 in., the longest being 28 in. Of 3405 placentæ noted the average weight was 24.1 oz. There were two with children at full term which weighed only 6 oz. each. Eight weighed 8 oz., 387 weighed 16 oz., or less, 2612 weighed between 1 lb. and 2 lb., 360 between 2 lb. and 3 lb., and there were with single children placentæ weighing 50, 51, 52, 53, 55, 56, 58, 60, 64, and 65 ounces respectively. In cases of twins there were two placentæ weighing over 4 lb., and in the one case of triplets recorded the placenta weighed 6.3 lb. The shortest umbilical cord measured 4.3 in., and the longest 56 in. There were twenty-nine 10 in. and under in length, and twenty-six 40 in. and over, the largest number being 20 in. long, and the general average being 22.7 in.

The duration of pregnancy is a very interesting question, but, unfortunately, these cases are not recorded with sufficient exactness to allow of any calculations being based upon them. Deducting, however, those cases given as premature, and cases in which menstruation continued for some time during pregnancy, we have an average of 294 days as the duration of gestation. The shortest period of gestation is given as 173 days, or a trifle over five months. The greatest number were delivered at 280 days, while there are forty-two cases given in which pregnancy lasted 300 days or more, three of these being at 361, 368, and 385 days respectively—my own opinion being that these are cases of error. Excluding also these cases, then, which seem hardly

possible, we have an average of 293 days as the duration of gestation. The largest number of cases were, of course, primiparæ—viz., over 61 per cent. There were, however, a number of multiparæ, one case being a tenth pregnancy, four cases being eleventh, and two cases twelfth pregnancies.

Of the 3520 children born in the hospital, 150 were dead, a proportion of one in 23·5 nearly, the proportion of dead children born in the St. Louis (Mo.) Female Hospital being at the rate of one in 12·16, according to the report for 1884-85, and in Burlington (Vt.), according to Dr. J. H. Linsley, the proportion in 1885 was one in 19·55. Of 3483 women admitted thirty-five, or a small fraction over 1 per cent., died, a rate of one in 99·5, this being an increase over the number given by Dr. MacCallum, but less than the rate given in the report of the St. Louis Hospital, where it was 1½ per cent. Of these deaths, eight were from puerperal fever, which broke out in the hospital in 1871 and 1872, in both instances, however, being brought into the hospital from the city, where it had been prevailing for some months previously. Owing to the small accommodation of the hospital, it was closed for a time on both these occasions. Four deaths occurred from uræmic poisoning and one each from thrombus of the labia, congestion of the lungs, heart disease, post-partum convulsions, peritonitis, and Bright's disease. In seventeen cases the cause of death is not given.

Of the 150 children born dead, ninety-two were males and fifty-eight females, or in the proportion of 158·6 males to 100 females. The average weight of these children was—

	Males.	Females.
Maximum ... ..	11 lb.	9 lb.
Mean ... ..	5½ lb.	5¼ lb.
Minimum ... ..	3 oz.	1½ lb.

Dead children were distributed as follows, according to pregnancy:—

	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	Total.
Males .....	54	23	7	3	2	1	1	1	0	92
Females.....	30	15	4	2	1	2	1	1	2	58
Total .....	84	38	11	5	3	3	2	2	2	150

The average weight of children born dead, according to pregnancy, was as follows:—

	lb. oz.	lb. oz.	
1st pregnancies .....	6 3	6th pregnancies.....	4 14
2nd ..	6 2	7th ..	6 8
3rd ..	5 0	8th ..	6 14
4th ..	6 15	9th ..	8 14
5th ..	7 5		

Eighty-seven cases are given as being premature births, and of these fifty were males and thirty-seven females. Fifty-five of the mothers were primiparæ and twenty-one were in their second pregnancy. The average weight of the placenta in these cases was 14½ oz. The average weight of all children born prematurely was 3lb. 5oz., and the average length was the same in both sexes within a small fraction of an inch—viz., 14¼ in. Twins occurred thirty-five times, or a proportion of one in ninety-four cases, nearly. In these cases the average duration of labour was 9 hours 50 min., the extremes being 20 min. and 103 hours. The placenta belonging to these children averaged 34½ oz. in weight, and the umbilical cords averaged 21 in. in length. The average duration of pregnancy in cases of twins was 277 days. Of the seventy children born sixty-one were alive, seven dead, and two stillborn. Seventeen of the mothers were confined for the first time, eleven for the second, and five for the third time, while one case was a fifth, and one an eighth, pregnancy. The average weight of twins was:—

	lb. oz.	Of all children.....	lb. oz.
Of two males .....	6 8	males .....	6 3
„ two females.....	6 6	„ females .....	6 4
„ male and female .....	5 13	„ females .....	6 2

Only one case of triplets is recorded. This was an Irish woman, about thirty-three years of age, and married. It was her third pregnancy, and gestation had lasted 280 days. Forceps were used to deliver one of the children, the others being born naturally. The breech of one presented, and the heads of the other two. The duration of labour was three hours. Two of the children were males, and one female; they measured nineteen, sixteen, and sixteen inches, and weighed 5½ lb., 4¾ lb., and 4¾ lb. respectively. The placenta, as previously mentioned, weighed 6½ lb., and the cords measured fourteen, twelve, and twelve inches. Two of the children were alive, and one was stillborn.

Although no opportunity has existed for the comparison in this hospital, it may be interesting to note the compara-

tive frequency of plurality births among the white and coloured population. In thirty-one years the proportion is as follows:—

Colour.	No. of births.	Plurality births.	Proportion.
White ...	63721	715	1 in 89·12
Coloured ...	2490	53*	1 in 45·1
Total ...	66211	768	1 in 86·21

\* All cases of twins.

The above table shows a much larger proportion of plurality births amongst the coloured than amongst the white population.

In the hospital instrumental interference was required in seventy-eight cases, forceps in seventy-five cases, the perforator twice, and the blunt hook once. The forceps were applied once in 46·5 cases, sixty-six cases were primiparæ, and in these the difficulty may be attributed to rigidity of the soft parts, deformity of the pelvis, or to malposition of the head, or to any of these causes acting in combination. The cases of deformity of the pelvis are very few, and this may doubtless be attributed to the fact that the hygienic surroundings of the working classes are better in Canada than in older countries, and also to the fact that girls are not put to work at as tender an age as in some countries. In none of these cases is it recorded that the mothers died, while of the seventy-five children delivered with forceps thirteen, or 17·33 per cent., died. In three cases the forceps were applied to hasten the delivery in cases of convulsions, once in a case where symptoms of exhaustion appeared, and once in a case of narrowing of the conjugate diameter of the brim, with prolapse of the funis. The forceps generally employed are Rigby's and Simpson's, but on one occasion Tarnier's forceps à aiguille were used. The average age of these patients was twenty-six, and the average duration of the labours a little over twenty-four hours. Of the children forty-five were males and thirty females. The average length of these children was twenty-one inches for the males and twenty inches for the females, and the average weights were 8lb. 5oz. and 7lb. 12oz. respectively. The perforator was used twice to diminish the size of the foetal head. The first case was a girl aged nineteen, in her first confinement. The breech presented, and the case had lasted forty-three hours when, after perforation, she was delivered of a male child, measuring 18 in. in length and weighing 7½ lb. The second case was a girl admitted in labour with her second child. The shoulder presented, and the funis protruded from the vulva. Great difficulty was experienced in turning, and after it was accomplished the head had to be perforated behind the ear, when, after a gush of water, the collapsed head was expelled. A full description of the case is to be found in Dr. MacCallum's report, published in vol. xx. of the Transactions of the Obstetrical Society of London. Version was performed in six cases. In all of these the mothers recovered, but in only one instance was the child born alive; in one other case, although stillborn, it was resuscitated.

Hæmorrhage after delivery is of rare occurrence in this hospital, and this is no doubt greatly due to the care with which the uterus is attended to during the expulsion of the child and removal of the placenta, and also to the care with which adherent membranes are treated. The rules laid down for the guidance of students at this hospital are given by Dr. MacCallum in his report, and are very complete. When hæmorrhage does occur after delivery, the treatment consists in strong grasping pressure on the fundus uteri; the application of cold, either externally or through the vagina; and the introduction of the hand into the uterus. Ergot of rye has also been given.

Ten cases were followed by convulsions. In three it is recorded that the urine was albuminous, and in one it is stated that the urine was free from albumen, while the condition of the urine in the other cases is not given. In two cases blood was drawn from the arm in connexion with inhalations of chloroform and the use of chloral and bromide of potassium, which were also used in the other cases. Bleeding was not refrained from because of any belief in its inefficiency, but because the class of patients coming to hospital will not, as a rule, bear it. In three of the cases the forceps are mentioned as having been used to complete the delivery. The average duration of labour in these cases was fourteen hours. Six of the children were males, and averaged 8½ lb. each; four were females, and averaged 8½ lb. each. Of the ten children, two males and one female were dead.

Three cases of insanity after delivery are reported—all in primiparæ. The first was the subject of fibroid tumour of the uterus and metrorrhagia, and was an habitual opium eater, although this habit was partly overcome while she was in the hospital. On the third day after delivery she was attacked with acute mania, and became very violent. Under treatment she rapidly improved, and left the hospital on the twelfth day after delivery. The second was a young girl who had been seduced. Five days after a natural labour she was attacked with mania. She improved under treatment, but finally had to be sent to the asylum for the insane. In this case there was a family history of insanity. The third was a girl aged twenty-one, whose labour was natural. She was attacked with insanity six days after delivery, after having received a severe mental shock. She was very violent and abusive, and had homicidal tendencies. In three weeks, however, she recovered sufficiently to leave for home, and had no return of the attacks. The treatment of these cases consisted in full doses of chloral and bromide of potassium, with warm purgatives and nourishing diet.

Among the more curious things met with in the hospital were:—Three anencephalic children, two with supernumerary fingers, one with two teeth, and one covered with hair. Two were born with clubbed feet, and one with a bifurcated cord; one child was born with a spina bifida situated over the sacral region. It was removed to the Montreal General Hospital, and the tumour tapped by Dr. Roddick. The child lived only a few days, however. One blighted foetus was born with a healthy, well-formed child. It measured 6 in. in length. Two patients were married while in the hospital. One patient was admitted who presented many of the signs of advanced gestation, but on examining her closely it was found to be a case of phantom pregnancy. Three patients menstruated for the first seven months of their pregnancy, and two for the first three months.