

**THE HISTORY OF THE FLORENCE NIGHTINGALE
LYING-IN WARD, KING'S COLLEGE HOSPITAL.**

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(Communicated by Dr. W. S. PLAYFAIR.)

HAVING been engaged in compiling the statistics of the Florence Nightingale Lying-in Ward at King's College Hospital, it has been suggested to me that it would interest the Obstetrical Society to see the result. I have now, therefore, the honour to lay before the Society the history of this ward from its foundation in 1862 to its closure, on

account of the gradually increasing mortality among its inmates at the end of 1867.

After the Crimean war a large sum of money was raised by the friends and admirers of Miss Nightingale, which it was intended to present to her. She would not take it for herself, but wished it to be applied to the purpose of instructing women in nursing. Among other things, arrangements were entered into with the authorities of King's College Hospital to set apart a large ward in the hospital as a lying-in ward where young women, properly recommended, could be instructed in midwifery. The ward was situated at the top of the hospital, and had two small wards opening out of it. Two other wards were on the same floor, but separated from it by a long gallery which communicated with the staircase, running round a large shaft from the bottom to the top of the hospital. These were No. 4, a medical ward, and the Pantia Ralli, a ward for diseases of children. Directly below the proposed lying-in ward was a medical ward, and below that again a surgical ward, besides two other medical and three surgical wards on different floors, all opening into the shaft before spoken of.

Dr. Farre, who was then Physician-Accoucheur to the hospital, objected to the collection together, under the same roof, of parturient women and medical and surgical cases, and said that the only conditions under which he would undertake the charge of a lying-in ward at the hospital were, first, that the women should be kept perfectly separate from the rest of the hospital; and secondly, that there should be a large cubic area of air allowed to each woman. Both these conditions were, and have been ever since, fulfilled as far as possible. Every possible precaution to ensure the safety of the patients was taken. The long ward was only used for convalescent patients, the two smaller wards being used alternately for delivery wards, each of which was used for three weeks at a time and then shut up and cleansed most thoroughly. Each patient in the long ward had 3200 cubic feet of breathing air, an amount considerably above the average allotted to hospital patients generally. Students who

were dissecting or attending the surgical practice of the hospital were requested not to come into the lying-in ward. The resident accoucheur and his clerks were cautioned against going to post-mortems, or into the surgical ward. Disinfectants—charcoal, Condyl, carbolic acid, &c.—were constantly used in the wards; in fact, no precautions were neglected that would ensure the most perfect hygienic conditions. Dr. Priestley, Dr. Farre's successor, expressed it as his opinion that he never knew a "maternity" so perfect in its details; and numerous obstetric physicians of note on the Continent had seen the ward and expressed their admiration of the whole of the arrangements. Yet, as I shall show presently, the history of the ward is one of painful mortality to the women confined within its walls. This mortality it was that induced Dr. Priestley, much as he regretted parting with so valuable an aid to his teaching, and so great a benefit to the students attending the hospital, to recommend the Committee to close the ward.

The ward was opened in January, 1862, and in that year 97 women were delivered there. Of these, 3 died; 2 from puerperal fever, and 1 from puerperal peritonitis. Two of these deaths were after purely natural labours; 1 was a case of twins, complicated with phthisis. The proportion of maternal deaths that year was 1 in 32·3 labours.

In 1863, 105 women were confined, and there were 2 deaths; 1, in a case of stillbirth, from puerperal fever, 1, after a natural labour, from puerperal fever. The proportion of deaths that year was 1 in 52·5 labours.

In 1864, 141 were confined and there were 3 deaths; 1, after a natural labour, from puerperal fever, 1 from pyæmia after the induction of labour at the eighth month, and 1 from post-partum hæmorrhage, the child being born in a cab on its way to the hospital. The proportion of deaths that year being 1 in 47 labours.

In 1865, 163 women were confined, and there were 5 deaths; 3 of which were natural labours, 1 dying of puerperal fever, 1 of puerperal peritonitis, and 1 of thrombosis of the right side of the heart and pulmonary artery. The 2

others were both primiparæ, and were both delivered by the short forceps, 1 dying of puerperal fever, and one of puerperal metritis and pelvic cellulitis. The proportion of deaths that year being 1 in 32·6.

In 1866, there were 150 women confined, and there were 5 deaths, 2 of which were natural labours; 1 dying of puerperal fever, the other of gastro-enteritis. Of the 3 others 1 was a case of adherent placenta, which had to be peeled off by the hand, dying of puerperal fever, another was a case of placenta prævia, dying of bronchitis and emphysema, the third was a primipara delivered by the long forceps, who died on the fifth day of peritonitis. The proportion of deaths for that year was 1 in 30 labours.

In 1867, 125 were delivered in this ward, and there were 9 deaths. Of these, 5 were natural labours, one of which, however, had erysipelas when admitted, dying a fortnight afterwards from puerperal peritonitis; another had considerable post-partum hæmorrhage, and died of puerperal fever; a third had some clots removed from the uterus by the hand, dying of pyæmia; the other two were unattended by any bad symptom till puerperal fever set in and proved fatal in about a fortnight in each case. Of the remaining 4, 1 was delivered by turning, and died ten days afterwards from puerperal peritonitis. Another had severe rigors during her labour, possibly the effect of malarious poison imbibed before she was admitted into the hospital. A third was a case of twins (primipara); the first child was born naturally, a breech presentation, it had been dead for some time. There was a complete cessation of all uterine action after the birth of this child, and the second had to be delivered by turning. This woman died on the fifth day of puerperal fever. The last case was also a primipara, who was delivered by forceps in consequence of the supervention of convulsions. There was some slight laceration of the posterior wall of the vagina, and she died on the sixth day from puerperal fever. The proportion of maternal deaths that year reached the startling amount of 1 in 13·8.

The average maternal mortality for the whole six years is 1 in 28·9 labours.

From various sources—the lying-in hospitals of Paris, St. Petersburg, London, Vienna, Glasgow, Liverpool, and Dublin—I have collected statistics of nearly 90,000 women, and I find their average mortality to be 1 in 29·3 labours.

The average at the Rotundo Hospital, Dublin, for the six years from 1861 to 1866 is 1 death in 34·9 labours.

The average at the British Lying-in Hospital for the last six years is 1 in 54·8 labours.

So that the mortality in the Nightingale Ward has been higher than the average of the large number of cases that I have collected, and much higher than many of the places taken individually. An interesting question then arises, What is the cause of this high rate of mortality? We have seen that the general arrangements to secure thoroughly hygienic conditions were as nearly perfect as could be; then why should there be so many deaths? I have no hesitation in saying that the reason is, what Dr. Farre originally objected to, the collection under one roof of medical and surgical cases, especially the latter, with midwifery cases. Without the utmost precautions this could not but be attended with the most dire results. As it was, the transmission from the other wards to the Nightingale, of the air poisoned in those wards, was wonderfully facilitated by the construction of the hospital. The only outlets for the air coming up from below were the Nightingale Ward, the Pantia Ralli, No. 3, and the dormitories, the chief of which was the Nightingale; and through this ward, in spite of all precautions, the impure air would in all probability pass. That it did so pass is proved by the fact that on more than one occasion the women occupying the beds nearest the door were bad and had high temperatures, while the rest of the women in the ward were going on quite well. I have not been able to obtain any actual records of the fact, but I have no doubt that the outbreak of erysipelas and pyæmia which occasionally occurred in the surgical wards was the signal for the occurrence of puerperal fever in the Nightingale.

Within the last six months the ward has certainly had the only outbreak of puerperal fever, occurring at a time when erysipelas and pyæmia and allied unhealthy inflammations were rife in the surgical wards. During this time an interesting fact occurred, showing the connexion between erysipelas and puerperal fever. The child of the last patient, who was delivered by the forceps, was slightly marked by the instrument behind the left ear. From this erysipelas started, spreading over the head and face, and the child died. As will be seen from the paper which I hand round, our rate of mortality has been gradually increasing. I can give no adequate reason for this except that the number of difficult, tedious and instrumental labours have been greater of later years, and these weakening the women have rendered them more susceptible to the contagion, and less capable of resisting the attacks of puerperal fever.

Dr. BARNES said that no paper was more deserving of record in the 'Transactions' than this, in order that it might stand as a warning against the repetition of the most disastrous experiment related. Was it necessary to repeat an experiment which ample experience in every country had over and over again proved to be fatal? This tendency to repeat a fatal mistake was more the fault of the lay members of society than of medical men. He did not suppose that any physician in this town would now advocate the establishment of a lying-in ward in a general hospital. Dr. Farre had never approved of it. He himself had strenuously resisted a proposition, at one time contemplated, to establish a similar ward in the new St. Thomas's Hospital. So deeply had the mortality of lying-in hospitals, even of those constructed with every care that modern research could devise, impressed many of the most eminent men in Paris, that the expediency of suppressing these hospitals and of substituting home midwifery was now admitted.

Dr. GRAILY HEWITT said that lying-in hospitals, as they had been organized up to the present time, were most undoubtedly objectionable. The secret of the successful treatment of lying-in cases was isolation. If the patients were isolated from each other by suitable means and in suitable buildings, there was no reason why the mortality should be higher in a lying-in hospital than elsewhere; but in the existing hospitals these precautions had not been attended to.

Dr. PLAYFAIR most cordially agreed with all that Dr. Barnes

had stated as to the dangers of lying-in hospitals in general. The position of the ward itself was peculiarly unfortunate, being situated at the top of the hospital, above two storeys of wards, and by the side of the large central staircase, which, acting as a ventilating shaft, of necessity carried past it air saturated with the emanations of the surgical wards below. The outbreak of puerperal fever constantly coincided with the presence of erysipelas in the surgical wards. In none of the cases were the symptoms at all those of erysipelas, although the latter disease had attacked a child whose scalp had been injured by the forceps, doubtless from the same poison as had given puerperal fever to the mother.