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ANTISEPTIC OBSTETRICS.

BY

CHAS. WARRINGTON EARLE, M. D.,

CHICAGO.

Reprinted from the Transactions of the Thirty-seventh Annual Meeting, Illinois State Medical Society, held in Rock Island, May 17, 1888.

REPORT OF THE SPECIAL COMMITTEE ON ANTISEPTIC OBSTETRICS.

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Under the above general topic I desire to call attention to the following questions:

1. Does a high rate of mortality still exist in the private practice of obstetrics?

2. Can the extreme low rate of mortality attained in hospital obstetrical practice be obtained in private practice?

From time to time, indirect and unexpected testimony comes to us in regard to the mortality from puerperal diseases in private practice. A student of mine, now in practice in Michigan, narrates to me that a neighboring practitioner has lost 12 cases in six months. The fact that a celebrated obstetrician, some years ago, himself a victim of purulent catarrh, in four years and nine months had 95 cases of puerperal fever with 18 deaths, is a standard quotation in obstetric literature.

In one insurance company whose papers I have examined, 187 mothers or grandmothers of those applying for insurance had died, and 32 of these, more than 17 per cent., had succumbed to some form of child-bed disease. In another company with a mortality of 116 mothers—13, or over 10 per cent., had died of the same disease.

During the last of April (1888), in a period of eight days, I saw three cases in consultation, of puerperal metroperitonitis, all in the practice of different gentlemen—all fatal.

Not many months since, Mr. Lawson Tait paid a visit

to Prof. Tarnier, at La Maternité. The professor called the attention of Mr. Tait to a linear chart on the wall of his room, showing the total death rate of women confined in that hospital from 1792 to 1886.

This record is divided into three periods: the first that of inaction, in which the mortality was from 9.3 to 20 per cent.; the second, the battle of hygiene against infection and contagion with a mortality of 2.3; and, third, the victory of antiseptics, with a mortality of less than one per cent.; and in the Tarnier Pavilion, a little maternity constructed under his immediate direction, since June, 1880, with 785 deliveries, not a death has taken place.

If time permitted, I could obtain and set before you nearly the same results in the Prague Maternity, under the wise direction of Prof. Breisky; the Copenhagen Maternity under Prof. Stadfeldt; and in Vienna in the wards of Profs. Braun and Spaeth. It is not necessary, however. The days of epidemic puerperal fever in hospitals, with a wise administration, are past. But why is it necessary to return to those scenes; why expedient to again call to mind such a murderous mortality? We must recollect that these results are in hospital practice; the returns are not in from private practice. How were these results brought about in the great maternities, surrounded with the so-called nosocomial atmosphere, and what efforts are now being put forward to lessen the death rate in private practice?

About the year 1847, Semmelweiss wrote: "Puerperal fever has existed for two hundred years; it is time that it should disappear."

Concerning puerperal fever in ancient times, we know but little. Litzman believes it should be classed among the modern diseases. But in 1664 it raged in the Hotel Dieu, in the Dublin Maternity in 1672, and again, in 1774, in Paris and Dublin, and up to the end of that century in Vienna, Berlin, Giessen, Copenhagen, St. Petersburg. In the last-

named place, in 1825, one in eleven died; in Lombardy, between 1786 and 1787, not a patient survived.

In view of these facts, we are not surprised that Semmelweiss declared that it was time that this murderous mortality should disappear.

Attempts had been made as early as 1757 and 1786 in the direction of what we now consider antiseptic methods. At the date first mentioned, Recolin suggested intra-uterine injections; and Levret, one hundred years ago, wrote (quoted from Bar): "If there be any putrefaction, I obtain its discharge and that of the foreign substance by means of aqueous injections made into the cavity proper of the womb, and I find it very useful."

During the early part of this century, investigations to determine the cause of puerperal fever were carried on with vigor. Obstetricians made repeated autopsies, with the hope of finding the peculiar lesion. But in many instances, at least, the more autopsies they made the greater their mortality. Semmelweiss inaugurated certain prophylactic measures concerning autopsies, and he lessened the mortality. He insisted that the chloride of lime should be used for personal disinfection; he maintained that the disease was infectious, and that it came from both within and without the woman. There is no evidence that Semmelweiss grasped to any extent the doctrine of germs, but the position which he assumed was occupied and maintained in the face of ridicule and abuse. He was far in advance of any who had attempted to grasp the subject, and in 1860, when he published his treatise giving the results of his ripened experience, he had abandoned his first exclusive position and promulgated a theory which we can accept to-day, with the addition of giving the germ theory as the cause of the phenomena which he so clearly explained.

In 1870 to 1872, the influence of microbes in the etiology of disease began to be noticed, and in 1878, Pasteur

began his investigations, from which we commence to collect data to prove what is now known as demonstrated in regard to germs. Previous to this, however (1857), Tarnier demonstrated the contagiousness of puerperal fever by inoculation. Mayerhofer (1870) viewed the micro-organism in the putrid discharges of child-bed women, and Orth, Klebs, Hiller, Koch, Rokitansky, and others were conducting their researches. About 1880, Pasteur believes he saw the microbe of puerperal fever. Condensed for practical use, it has been demonstrated:

1. That the air and water of the earth is crowded with organized microscopic beings.

2. They live and multiply at the expense of organized matter.

3. Their penetration into tissues produces disease.

4. The skin, respiratory and digestive passages furnish the channels into the body.

5. A healthy tissue has never produced a microbe.

6. Any abrasion of tissue against which these microbes come makes it possible for them to enter the system.

7. Unless germs are brought from without there can be no infection.

8. Many things in regard to the virulence, nature, attenuation, age and development are yet under consideration.

The appliance of these principles, with many others undoubtedly which I fail to enumerate from lack of time—and possibly I do not at this moment comprehend them —has given the victory to antiseptics in hospitals. With a mortality of only one-half per cent. but little more can be expected. But what can we say regarding the mortality in private practice? Is it necessary, is it expedient, is it possible to apply antiseptic measures? I have already remarked that the returns from private practice are not in; they never will be, they never can be, and until it is under-

stood that what is called by so many milk-leg, is puerperal infection, that in many cases mastitis is puerperal infection, and that chills and perspiration and abdominal tenderness after confinement is not necessarily simply malaria or a mixture of typhoid and malaria, but in the main is puerperal infection—I say, until these things are better understood, and the great mass of practitioners are willing to call things by their correct names, a truthful percentage of deaths from puerperal causes in private practice can never be known.

The words of experience which will come to us from members of this Society in regard to abdominal surgery—Alexander's operation, total extirpation of uterus, etc., etc.—will be most valuable to a few, possibly to one in one hundred, or one in one thousand, for not more than that number should do those operations, although many more will try to do them. But the duty to practice clean obstetrics applies to nearly every member of this Society and to the general profession, for there are few who must not practice this branch of our art and science.

I speak at this moment to a few, compared to the great number who practice obstetrics, but I shall not be satisfied if the general idea advanced is not felt by a much larger number, for I believe so thoroughly in the modern practice of obstetrics that I am convinced that by it a larger number of valuable lives may be saved than in all other departments of medicine and surgery.

With this belief, what are some of the means which we can use in its practice in private families—in other words, how far can we apply what has been demonstrated as reducing the mortality in hospitals, to our work in families? It is not necessary to speak of isolation; apartments in private dwellings are hardly ever so crowded with the sick as to insist upon this. We should, however, see to it that the air is pure, and if infectious diseases have taken place,

take measures to destroy their germs. With the possibility of saving a human life, or at least averting from two to six weeks of prostrating illness, with its anxieties, expense, and uncertain prognosis, it is not asking too much, if there is the least suspicion of a poisonous atmosphere, that the room shall be disinfected. A few hours before an expected confinement the room may be fumigated with sulphur, or the walls dampened with carbolized or mercurial water. In this way a great amount of accumulated dust is either rendered aseptic or thrown down upon the floor or carpet, which may also be disinfected. It will, of course, be nearly impossible to dispense with curtains and carpets in private sickrooms, and in ordinary cases it will not be necessary. The furniture may be washed, however, with carbolized water, and, above all, the bed and its bedding can be clean. It may be suggested that such instructions are superfluous, and that the lying-in bed is always aseptic. In general practice this is not so, and many a practitioner has confined a woman on a mattress previously used by a diphtheritic or erysipelatous patient. In the main, it is because the people are ignorant of what these surroundings produce, but the average obstetrician is not free from serious responsibility that renders this practice so dangerous, not to say sometimes deadly.

With the room and its appointments made pure, it will be well to see that the patient has some definite instructions as to her preparations. As soon as it is known that her confinement is about to take place, I am in the habit of requiring her to take a warm bath, at the conclusion of which, the lower part of her person is to be washed with carbolized water. It is also requested that one or two carbolized vaginal injections shall be taken during the first stage of her labor.

In regard to the nurse:

Not many days ago an elderly woman, acting in the

capacity of nurse, looked at me in perfect astonishment as I washed my hands with soap and hot water, and used the hand brush with a sublimate solution, before making an examination, and when later I tossed a half drachm of iodoform into the vulvar orifice where the tissues were somewhat contused, she exclaimed, "What will he do next? These doctors are so different;" and this lady had credentials from several able medical men, and probably was the particular pet of two or three who were not "so different."

I have no hesitation in saying that, in my judgment, the occupant of many a lying-in chamber has yielded up her life, and the earthly career of many a babe commenced without the love and tender care of a mother, through the filth and ignorance of the so-called practical but untrained nurse. The position of nurse is too easily acquired—a woman whose husband has died, a woman whose husband is unfortunate in business, a woman who desires a little ready money—without a particle of training, without the faintest conception of what infection means, is frequently and eagerly employed to fill these responsible positions. And these midwives, caring for a child with purulent ophthalmia in one house, confining a woman in the next, and washing the external genitalia of a septic patient in the third, no wonder lying-in patients die. These uneducated people —nurses and midwives—go from place to place with their little hand-bags containing dirty aprons, septic catheters and syringes, and with emanations from their persons of kerosene and valerian, enter the lying-in chamber to scatter germs of infection.

Some years ago I was at great loss to understand the cause of a mild infection in the person of a wealthy Jewess confined in her beautiful home and surrounded with luxury, and where I had taken the utmost antiseptic precautions; the incautious remark of the nurse that the patient previously attended by her had a milk leg explained it fully.

If everybody is to nurse, we must insist that they subscribe to certain rules of cleanliness, and have some knowledge of the etiology of puerperal diseases.

Precautions to be observed by the doctor:

To believe that he may carry the poison from one patient to another is his first great duty. This acknowledged, he will take some kind of care, varying from a brief exposure in fresh air to complete antiseptic precautions. One of the most able and convincing arguments ever set forth, and which accomplished a vast amount of good and saved many a mother's life, was the essay of our own countryman, Dr. Oliver Wendell Holmes. As early as 1843, while the intellect of Semmelweiss on another continent was revolving the same subject, Dr. Holmes established and set forth the following: (1) Obstetricians should not take active part in autopsies. (2) If so engaged, he should allow some hours to elapse, and change his garments before attending a case, and (3) the inexpediency of obstetricians attending cases of erysipelas and certain other diseases. Since we now know that, by the use of disinfectants, the contagious principle can in most cases be destroyed, it is probable that, with proper and efficient antiseptic precautions, it will not be necessary for us to remain in quarantine. But the only safety, in addition to knowing the virulency of germs, is to be willing to disinfect one's person and know how to do it. If we appreciate a danger, we will take care to avoid it. The time has not come when many of us can refuse to do general practice, to attend cases of scarlet fever and diphtheria, and open abscesses, etc. But if we realize the fact that we have made ourselves partly or wholly septic, and desire and know how to make ourselves aseptic, we are undoubtedly in a safe position as regards our patients. It is the carelessness and inactivity of which I complain.

It is futile to claim that absolute cleanliness is practised in anywhere near a majority of cases, or that any attempt

is made toward antisepsis. It is done by a few, but the great mass must still be brought up to it.

In 1875, Dr. Foote, in a paper on puerperal peritonitis, read before the Illinois State Society, presented evidence something like this: A doctor, with a phlegmon on his finger, attended a lady in confinement. She died in a few days. She was nursed by her husband, who soon after had erysipelas. In other cases diphtheria was present in houses where confinement occurred, and puerperal peritonitis followed. Another gentleman reports an epidemic in his county with sixty or seventy cases, and yet nothing was suggested. This is the period of inaction with us. We are theorizing in regard to contagion and infection. The battle against them with cleanliness and antiseptics has not commenced.

As late as 1881, one of the ablest obstetricians in our State wrote: "If pains are frequent and regular and so efficient as to have dilated the os uteri to the size of a dollar, the attendant engages two fingers in its lumen, and gently dilates it."

The development of the germ theory has brought out the facts that such interference is not only unnecessary, but is attended with danger of infection. In the majority of cases, it is not necessary nor good practice to dilate the os uteri artificially; indeed, our instruction and practice should be to make very few, if any, vaginal examinations. When the doctor enters the lying-in chamber, he should have the supreme knowledge that he is aseptic. He should freely use the hand brush with soap and water, and it is hardly necessary for him to make more than one or two examinations. The finger should be lubricated with iodoform mixed with sweet oil or vaseline, or a sublimate solution. Let as far as possible the position of the child be made out by external examination. In addition to the doctor's clothes and person being aseptic, there should be a full and complete

conception of what autopsies and personal contact with scarlet fever, diphtheria, erysipelas and suppurating surfaces will do. The studies of the past few years have demonstrated this. If it was suspected before, its full significance was not known. Let the placenta be expressed, not following, perhaps, all the details of Credé, but with slight traction on the cord and little pressure from above. It will not be necessary in a percentage of cases worth mentioning to pass the fingers into the vulvar opening after the birth of the child. If there is a ruptured perineum, let it be closed at once, using all antiseptic precautions. If there are contusions of the parts without laceration, or if the laceration is only very slight, wash out superficially with a little carbolic or sublimate, and throw in thirty to sixty grains of iodoform. And if there is the least suspicion of a tainted atmosphere; if, notwithstanding your instruction, everything external is unclean and in some cases filthy, see that there is no gaping of the vulvar orifice, and protect the parts by the application of a piece of lint six by four, saturated with some disinfectant; this to be changed as often as soiled.

Attention to these four things will absolutely change the results in general obstetric practice: (1) The antiseptic hand; (2) the clean patient; (3) few, if any, vaginal examinations; (4) antiseptic precautions to the lower part of the parturient canal.

Time will hardly permit me at this occasion to more than allude to antiseptic precaution to be taken in dangerous, difficult, and impossible labors. If the forceps are used, they should be thoroughly washed and brushed before introduction, and covered with vaseline and iodoform; a vaginal antiseptic douche should be given before and after the delivery of the child. As to whether an intrauterine disinfecting douche should be given after forceps delivery is perhaps an open question; but after all operations where the hand has been introduced into the uterine cavity, this

should always be done. If post-partum hemorrhage take place, give a hot antiseptic douche rather than to introduce medicaments, which may produce infection, and if, from any cause, dilators or a tampon or the colpeurynter are used, let them all be aseptic.

There are a few things applicable to patient and nurse, and it appears to me that it would be well to have something in the same line printed, and upon taking an obstetrical engagement hand a copy to both.

To the patient. Let her understand that strict attention to instructions which you will give her will insure, almost absolutely insure her, against those complications which make the getting up so tedious. You make the following suggestions:

1. The lying-in chamber should be in a room where no infectious diseases have been treated, and all bed clothing should be prepared by boiling in a given per cent. of carbolized water. Do not select a mattress which is filthy for fear that a better and cleaner one will be soiled by blood and other discharges during the confinement. Do not provide pieces of old comforters, the sanitary condition of which is problematical. Let all appliances for the lying-in chamber be those with the history of which you are familiar. Do not borrow syringe or bed-pan, and assure yourself that those you have are boiled or washed in hot water and thoroughly carbolized.

To the nurse. She must be a believer in cleanliness, and must recognize that the doctor is to be the director of whatever is to be done. No instruments, appliances, package of roots or herbs, or garments of any kind which have been used in other lying-in chambers are to be taken to other patients. The clothes she wears are to be thoroughly washed in a carbolized or mercurial solution, and she is to acknowledge that she believes in the use of the hand brush and soap. She is to make no examinations in your absence,

and never touch the female genital organs without cleansing her hands in some disinfecting fluid. If she has been in attendance on septic patients, she is to receive instructions from the attending physician as regards the method of personal disinfection.

It is only by the observance of such rules applied to doctor, nurse, and patient, that we can approximate the results now attained in hospital practice. It is the practice which the development of the germ theory has forced upon us. We cannot avoid it, and to you, members of a great State Society, in your communities, is left very largely the duty of inculcating these principles, and seeing to it that the great mass of practitioners give every parturient woman, whatever her station, the benefit of it.