

CARE OF PROSPECTIVE MOTHERS.*

BY ARTHUR B. EMMONS, 2D, M.D., BOSTON.

OUR new Health Commissioner of Massachusetts, Dr. McLaughlin, is pointing out that a health department to be effective must be efficient in all its parts. These parts, he says, include not only the State Department and local boards, but the physicians, the nurses, and the people themselves. Public health must begin with the individual and the family. Their teachers are the nurses who must depend on the doctors for their knowledge of hygiene. It is in your capacity of family health officer that I wish to address you doctors to-night.

My subject, "Care of Prospective Mothers," is a part of preventive medicine. Pregnancy care, intelligently and systematically given, I shall try to show, leads to better obstetrics, and thus adds to the safety of child-bearing, which is a most vital branch of public health. Is there need of improvement in this branch of public health? Or is it on a satisfactory basis now, not only among our well-to-do patients, but among the poorer people? I quote from some of our highest authorities in this country, who go to the root of the matter, the teaching of obstetrics in the medical schools throughout this country.

Dr. J. Whitredge Williams, professor of obstetrics at the Johns-Hopkins Hospital, through a questionnaire sent to the professors of obstetrics throughout the country, indicates the condition of affairs in part as follows:¹

I. Many of the professors are poorly prepared for their duties and have little conception of the obligations of a professorship. Some admit that they are not competent to perform the major obstetric operations, and consequently can be expected to do little more than train man-midwives.

III. Many of them admit that their students are not prepared to practice obstetrics upon graduation, nor do they learn to do so later.

V. Reform is urgently needed, and can be accomplished more speedily by radical improvement in medical education than by attempting the almost impossible task of improving midwives.

VI, c. Recognition by medical faculties and hospitals that obstetrics is one of the fundamental branches of medicine, and that the obstetrician should not be merely a man-midwife but a scientifically trained man with a broad grasp of the subject.

d. 5. Education of the general practitioner that he is competent only to conduct normal cases of labor, and that major obstetrics is major surgery, and should be undertaken only by specially trained men in control of abundant hospital facilities.

e. Education of the laity that poorly trained doctors are dangerous, that most of the ills of women result from poor obstetrics, and that poor women in fairly well conducted free hospitals usually receive better care than well-to-do women in their own homes. Teach that the *remedy lies in their hands*, and that competent obstetricians will be forthcoming as soon as they are demanded.

f. Urge the extension of obstetric charities—free hospitals and out-patient services for the poor, and proper semi-charity hospital accommodations for those in moderate circumstances.

g. Greater development of visiting obstetric nurses, and of helpers trained to work under them.

h. Gradual abolition of midwives in large cities and their replacement by obstetric charities. If midwives are to be educated, see that it is done in a broad sense and not in a makeshift way. Even then disappointment will probably follow.

This all comes from the professors themselves. Hear what another professor says of present conditions throughout the country: "Dr. DeLee² of Chicago in discussion said: 'Medical education in the department of obstetrics in the United States is below the standard maintained by the teaching of other departments, and continues to cry loudly for improvement. There is no question but that the medical men in the United States are not prepared to cope with obstetric emergencies. I feel that the statement cannot be controverted that there *die* in the United States, as direct and indirect results of childbirth, 20,000 women annually. If we think what a furore would be raised in the community if yellow fever were to take off 20,000 human beings in one year, and on the other hand contemplate the equanimity with which the public views this annual loss of 20,000 mothers, the comparison is striking.

"We cannot measure the amount of suffering and invalidism entailed by bad obstetric practice, but to one who views the procession of maimed and sick women that enter our hospitals, seeking relief from the diseases and accidents of childbirth, it is heart rending.

"Hundreds of thousands of babies are permanently crippled, either mentally or physically, as the result of improper obstetric management at their births, and in a goodly proportion the infant becomes blind as the result of carelessness.

"What is the cause of all these miserable conditions? There is but one answer. The standard of obstetric teaching and obstetric practice in the United States is too low. The public has no respect for the obstetrician. He is looked down upon, not alone by the people, but by the doctors themselves. The people will not pay the obstetrician properly for his arduous work. Obstetrics is the hardest branch of medi-

* Read before the Cambridge Medical Improvement Society, January 25, 1915.

cine to practice. It robs the doctor of his sleep, destroys his office hours, interferes with all his engagements, and besides that, the actual work is exceedingly laborious."

Another aspect of the question was expressed by Dr. S. Josephine Baker,³ director of Child Hygiene, Department of Health, New York. She says in part: "No amount of legal enactment for mere control after licensing and no amount of mere supervision, however faithfully carried out, will ever solve the midwife problem. If we are to meet and master the situation,—and the need of such a course is imperative—we must insist that every midwife receive an adequate professional training before she is allowed to practise, and we must provide the proper schools for this purpose."

Dr. Baker was one of those chiefly interested in establishing the Midwife School at Bellevue Hospital. She had the direct control of the large number of the midwives in New York City in 1911, 1344 permits, 51,996 births (40%) conducted by them. She has done a wonderful piece of work in bringing them to a higher level of efficiency and safety.

This, undoubtedly, is a temporary solution of the immediate deplorable situation in New York City where the midwives care for at least 50,000 births annually. The midwife system however must at bottom rest on the medical profession for the care of all abnormal cases. The cases treated by the midwives are lost to science and for teaching, and a second standard on a different level is established. An important branch of surgery is removed from the medical profession. *Is the medical profession ready to delegate normal obstetrics to the midwife?* Or are physicians ready to take the trouble, care, and expense of some other means to care, at an equal or nearly equal price, for these women?

From these statements it seems fair to conclude that the present system of caring for poor women is being shown to have failed to give reasonably safe care. If the medical profession does not face the difficulty and overcome it, various social forces are likely to demand an improvement by some means.

All this goes to show a general dissatisfaction, backed by statistics, of our present methods of caring for prospective and parturient mothers. How is it possible to better these conditions in our own city? I am here tonight to present one scheme—the *pregnancy clinic*. What does this mean? It means conserving the health and strength of the prospective mother; it means foresight and forehandedness during pregnancy. A common practice among the unenlightened or improvident, who blindly hope all is well, is to call at the last minute a doctor or midwife to meet unprepared any emergency. Pregnancy care substitutes for this haphazard method the following procedure:

The doctor sees the prospective mother as soon as she suspects that pregnancy has oc-

curred. He learns the history of past illnesses and childbirths and her present symptoms. He makes a careful physical examination of the teeth, lungs, heart, and blood pressure, of the abdomen with estimate of the period of pregnancy, the size and position of the child, if near term, the rate and location of its heart, and careful measurement of the mother's bones to make sure no obstruction to birth is present. Swelling of the feet and legs is noted, and a urinary test of the kidney function is made. The facts thus gathered form a basis on which to predict the outcome.

Such prediction is the highest point of obstetric science, and to be reliable, must be made by a physician familiar with the experience of the past. Our medical fathers classified millions of cases and studied thousands of abnormalities. The physician must be prepared to use this knowledge. The judgment of such a man must be balanced by the experience of successfully meeting the many problems and emergencies of obstetrics. How does this help the mother? Here is one example: Professor Kerr of Glasgow, a few years ago, in the Maternity Hospital of that city, by using more exact methods, such as careful study of the pelvis and the size of the child's head, was able to reduce the number of forceps operations, where the pelvis was mildly contracted, from 91 to 47%, thereby reducing the infant mortality in such case from 18 to 2%, and the infant morbidity from 30 to 4%. Similar results have been obtained in this country by Williams at the Johns Hopkins Hospital. Are such results obtained in private practice? I leave it to you doctors to judge whether such study of *private cases* is being made today. Is it possible in the life of a busy general practitioner? With the usual fees paid for obstetric care, can he afford to spend the time for such careful study?

In many cases this preliminary study and care may seem a needless precaution. There are, however, many dangers and discomforts which may by early recognition be avoided. The most important of these are:

1. Contracted pelvis.
2. Difficult labor from disproportion of pelvis and child.
3. The toxemias of pregnancy.
4. Extra-uterine pregnancy.
5. Placenta previa.
6. Pyelitis.
7. Septic conditions, including gonorrhea.
8. Syphilis.
9. Tumors.
10. Intercurrent disease, as heart troubles, tuberculosis and malnutrition.

With the outcome intelligently predicted, the mother is confidently reassured and instructed in hygiene, and the nurse is put in charge of the case, with the doctor as consultant to guard against any abnormal condition which may yet develop during pregnancy. The nurse visits the

home at intervals of not over ten days. At the first few visits home conditions are seen and instruction given for personal hygiene in diet, baths, clothing, fresh air, sleep, and exercise, i.e. how best to conserve her strength for the good health of the baby and for the physical strain of labor and nursing. Later, necessary preparations for the coming of the baby are assured, with every precaution against infection to mother and baby. At all visits the mental and physical condition of the mother is critically observed, a urinary test is made, and the coöperation of the whole family is solicited. The dangerous advice of the gossiping neighbor is less likely to be followed. Experience shows that the tactful nurse is welcome in the home and her opportunity for good is great. It would be difficult to exaggerate the value of these visits, made by an efficient, sympathetic nurse to certain prospective mothers. Seldom will a nurse's personality tell more than in some of these friendly visits. Her social service training will often be invaluable in meeting the situation.

The problems of maternity and its relations with society are enormous. Scarcely a pregnant patient comes to our clinics today who is not worried by some social difficulty added to her physical burden. Such problems as illegitimacy, drunkenness, and desertion are frequent, while improvidence, unemployment, and a too small budget are the usual state. The pregnancy clinic attempts to meet these difficulties through the organization and coöperation of the nurses and social workers. Is the general practitioner prepared and able to do this?

To sum up, pregnancy care is *preventive medicine as applied to obstetrics*, i.e. the utilization of every known means to keep the prospective mother well and strong, to foresee and forestall dangers, intelligently to provide for confinement. This may be merely proper care in the home at a minimum expense for the normal case, or the best skill available in a hospital for averting tragedy. Preventive obstetrics thus includes a wide knowledge of the *anatomy, physiology, psychology, and sociology* of the patient.

To obtain the greatest efficiency in pregnancy care there must be coöperation of the doctors, nurses, milk stations, hospitals, boards of health, and the patients and their families. Before turning to the immediate subject of the local situation, I wish to call your attention to a piece of work which has resulted in the lowest known infant mortality, and "*infant mortality*" has been said to be the most sensitive index of the civilization of any locality. This *most civilized place* is not in Europe or America, but in New Zealand.* While Boston has an infant death-rate of over one hundred, and Massachusetts of 130 and over, New Zealand has a rate of fifty-one, and the city of Dunedin a rate of thirty-eight.

This has been accomplished in New Zealand primarily through the initiative of Dr. F. Truby

King by means of the New Zealand Society and its public health nurses. Dr. King considers that pure milk represents a small part of the improvement which has been accomplished, while the *teaching of mothers* prenatally, postnatally, and later through the milk station, represents a far larger part in the improvement. He has made an *educational campaign*.

Improvement may also be shown to a less extent much closer home. In the city of New York⁵ an experiment has been carried on by the New York Milk Committee, supported by private subscription. The two diagrams show, first, the need of pregnancy care (a still-birth rate in 1910 of 48.1 per 1000 births, an infant mortality under one month of 40.6 per 1000 live births), and second, the result of a considerable experiment of reducing infant mortality by pregnancy care, including the supervision in less than 2 years of 2644 mothers. (This resulted in a reduction of the still-births of 11.2 per 1000, and of the rate under one month of 10.8 per 1000 live births.)

I wish here to describe an experiment carried on in Boston.*

From April, 1909, a committee of the Women's Municipal League of Boston, under the leadership of Mrs. William L. Putnam, has in five years given pregnancy nursing care to 1512 women in Boston. The results have been truly remarkable. No death occurred among these mothers during pregnancy, and but nine maternal deaths at confinement in the hospitals, —0.6% in the full five years.

In the last three and one-half years no miscarriages.

Impending eclampsia: 60 the first year, 2 the last year.

Only four cases of real eclampsia have developed.

Stillbirths, including premature births, were for two years less than half that of the rest of Boston.

Infant deaths: Total number under one month of age, 43, or 2.8%, while Boston's rate in 1913 was 4.3%.

Percentage of breast-fed babies, 84.7%; percentage of mixed feeding, 4.5%; total, 89.2%.

After this five-year experiment the committee rests satisfied that pregnancy care by the nurse visiting in the home at intervals of not over ten days has demonstrated its efficiency in relieving suffering and preventing danger and disease to the mother, and rendering maternal nursing more successful, thereby reducing infant mortality.

Proceeding from this convincing demonstration, the committee, backed by an advisory board of experienced obstetricians, has undertaken the next step. That is the more difficult problem of medical supervision during pregnancy and adequate care at childbirth. Two dispensary preg-

* Experiment of the Committee on Infant Social Service, now changed to Committee on Pregnancy and Obstetric Care of the Women's Municipal League of Boston.

nancy clinics are under the committee's supervision, one at the Peter Bent Brigham Hospital, the other at the Maverick Dispensary in East Boston.

These clinics are under the direct supervision of an obstetrician. They use as a basis to work with, not the trained or untrained midwife, but the young obstetricians who are graduates of some maternity hospital, and the nurses of the Instructive District Nursing Association. For such an organization semi-free and free hospital beds must be available. We know that at any time during pregnancy the case may demand major surgery. The work is gradually being standardized. For example: No patient before confinement may be visited by a nurse more than twice unless she has been examined by a private physician or by the obstetrician at the clinic. Thus the medical responsibility is carried by the doctor, which the committee feels is essential for the best results. Such a system is designed to use the ever increasing medical and nursing knowledge available in any community and to stimulate this to its highest efficiency. Results are encouraging, but not yet sufficiently numerous to warrant generalization.

THE SITUATION IN CAMBRIDGE.

Cambridge is to be congratulated on its excellent district nursing association. The directors of this association have recognized that a nurse is needed in the home at childbirth fully as much as at any other time. Few district nursing associations have succeeded in overcoming the difficulties involved in caring for obstetric cases in their homes. The irregularity of hours, and frequently the length of time required to care for such cases has made the expense so burdensome that other district nursing associations have shrunk from the task. I am told that in Cambridge every emergency has so far been met. It is recorded that during one rainfall of babies the whole nursing staff was used on obstetric cases; but it is their just pride that they cared for every case.

I am also informed that the physicians in Cambridge, in spite of poor pay and the other burdens of obstetric care, have generously responded to the call of the rich and poor alike, and thus have continued to meet the traditions of the medical profession, and I have no doubt this has entailed a considerable burden on many physicians, for obstetrics today among the poor is not a profitable business.

To demand or even expect more time, study, and care from these physicians with no extra compensation would hardly seem just and right, and yet there is a considerable number of cases, I am informed, where large benefit to all concerned might result if a pregnancy clinic were established. To give, perhaps, the worst possible example, I cite the following case:^a The Conviction of a Midwife; Commonwealth vs. Connor.

Catherine Connor was convicted on July 28th in charges connected with the blindness of a baby. Two mothers, one of them the mother of the blind baby, testified that Mrs. Connor had attended them in childbirth. In so doing she had practised obstetrics, a recognized branch of medicine, and not being a registered physician she had thus violated the Medical Practice Act . . . Mrs. Connor had seen the baby's eyes red and swollen and showing an unnatural discharge. Having "seen many such cases before" she provided a brown medicine which she dropped into the baby's eyes, thus again practicing medicine without a license. She also failed to report the birth until legal procedures had been begun, thus violating the Registration Law. She failed to report the symptoms of ophthalmia neonatorum, thus again violating the law. The court found her guilty. On request of the prosecution, and because of the defendant's extreme age, 84, sentence was suspended, on the understanding, however, that the defendant would absolutely give up practice.

The blame for such conditions cannot be laid at the feet of any responsible person, least of all to the medical profession, which has always been ready to care for such cases. Society must, however, recognize that such conditions exist, and it is the hope of some of us at least that the presence of an organized pregnancy clinic in the community may reduce the likelihood of such deplorable happenings. It is our hope that the general level of obstetric care, particularly in the poorer districts, may be raised to what could be fairly considered a service of reasonable safety to those of limited means. Such a project has, therefore, been prospected.

It has been suggested that a clinic be established, holding a weekly conference at the Cambridge Neighborhood House, that the Committee of the Women's Municipal League, whose object is to develop such work about Greater Boston and to stimulate it elsewhere, be responsible for the management, together with the District Nursing Association, whose nurses will carry the work into the homes after being present at the weekly conference, and with the aid of the social forces of the Neighborhood House. Such a project seems to me most favorable for carrying on a work of this character, designed for the good of the community and directed particularly to the better care of prospective mothers. Such a project, however, must have support. It is the hope of those interested that this medical society will give us moral and professional backing. Its very name, the Cambridge Medical Improvement Society, encourages us to this conviction.

Such a project must also have financial assistance. To establish a service which requires considerably more time of trained workers, where already financial stress has reduced the compensation below a profitable basis, means that such a service must be run at a considerable loss.

Any new project involving more expense to those of limited means, even though it may bring better service, is bound to be a losing business. Those interested already recognize this feature and are making preparations to appeal to the community, especially to the women of the community, for at least partial support. The plan is not to give such service free, but to urge all patients to pay the cost, probably from \$10 to \$15 for complete nursing and medical care, or perhaps \$5 where the patient has her own private physician. The obstetrician's time at the clinic will be given free by the committee of the Women's Municipal League. Our experience in East Boston during the first year of that clinic, where patients were asked to pay \$10.00, was that we received an average of a little over \$7.00. This is probably a greater proportion of the worth of such service than is paid by the students at Harvard College toward their educational advantages. Thus we do not consider that we are in any way pauperizing the community.

I began by saying that I wished to speak to you doctors tonight in your capacity of public health officers, and I believe that this project will appeal to the medical profession in this special capacity. It is easy to prove that the occupation of being an infant in Boston is more dangerous today than that of being a soldier in the European War. It has also been shown that 42% of this infant mortality takes place within the first month of life, which represents the large factor that prenatal and birth conditions play in this high infant mortality.

Two views of meeting the problem of reducing this early infant mortality are being put on trial throughout the country. First, the education, licensing, supervision, control, and re-education of the midwife to handle normal obstetrics. The other, to improve the teaching of obstetrics in the medical schools and to develop the maternity service to the community, *i.e.* lying-in hospitals, out-patient and pregnancy clinics. This scheme preserves to the medical profession the care of women at this critical period of their lives. The midwife program is probably the cheaper. The pregnancy clinic, working through the doctors and nurses, retains for the medical profession the care of such cases. In backing such a scheme as has been outlined here, you thereby help to preserve to the medical profession its privilege of rendering intelligent aid to civilized woman at her most critical time of life. I have complete confidence that neither time, effort, nor money will induce you to give up such a privilege.

REFERENCES.

- ¹ Williams, J. W.: The Midwife Problem and Medical Education. J. A. M. A., Jan. 6, 1912, Vol. lviii, pp. 1-7.
- ² DeLee, J. B.: Transactions of Am. Assn. Study and Prevention of Infant Mortality, 1911, pp. 195-197.
- ³ Baker, S. Josephine: Transactions Am. Assn. Study and Prevention of Infant Mortality, 1911, p. 241.
- ⁴ New Zealand Society for the Health of Women and Children, U. S. Dept. of Labor, Children's Bureau, 1914.
- ⁵ Seventh Annual Report, New York Milk Committee, 1913, pp. 36-47.
- ⁶ BOSTON MEDICAL AND SURGICAL JOURNAL, Aug. 13, 1914, p. 277.

Original Articles.

PERFORATION OF THE STOMACH AND INTESTINE BY FOREIGN BODIES THAT HAVE BEEN SWALLOWED.*

By F. S. WATSON, M.D., BOSTON.

I HAVE selected the subject of this communication to present to you this evening, partly because I happen to have had six cases of the condition in my care, partly because some of their features interested me, and partly because I did not recall its having been brought before any of our medical associations here for discussion.

In order to bring the communication within the limits appropriate for the occasion, I have not attempted to treat the subject exhaustively and have confined my exposition of it to a sketch and to the mention of some of its more essential features. I have also restricted it to perforations of the stomach and the intestine, omitting cases of perforation of the appendix or Meckel's diverticulum, of which all of us have doubtless had a good many. I will briefly refer to my own series of six cases first, and will conclude by calling attention to some of the features of the subject in general.

The perforating bodies in my own series of cases were as follows: 1. A wooden toothpick. 2. A needle such as is used in sewing canvas. 3. A fish bone. 4. A bristle. 5. A flat, thin bit of bone with sharp edges. 6. A body of unknown nature, having the shape of a bit of lead pencil, and about an inch and a half in length.

Four of these bodies I have brought with me to show to you; the other two, I regret, were lost.

Sites of Perforation. The sites of the perforations were located in three of the cases. In these they were: In the upper part of the jejunum, in the small intestine near the ileo-cecal valve, in the transverse colon midway in its course. In two of the remaining three they were presumably high up in the intestinal tract or in the stomach, and in one of them in the small intestine near the ileo-cecal valve.

Pathological Processes Produced by the Perforations and Foreign Bodies. In all but one of the cases the pathological conditions discovered were those that are seen in circumscribed peritoneal infection and inflammation.

In three of them intra-abdominal abscesses had been formed. In one of these the abscess had approached the surface of the abdomen, and would doubtless have been spontaneously evacuated there had not the operation been done.

In the second example of intra-abdominal abscess, that in which the jejunum was perforated, the conditions were of a more acute and severe grade of local peritoneal infection. The perforation in the bowel was large enough to admit the tip of the little finger, and fecal extravasation

* Read at the meeting of The Boston Surgical Society, March 1, 1915.