III.

HISTORY OF OBSTETRICS AND MODERN PRE-NATAL CARE IN OREGON

Alice Hearn

Obstetrics is that part of the science and art of Medicine most intimately related to the function of reproduction, the foremost of the four primary, instinctive bases of Nature. The word obstetrics comes from the Latin ob and stare, "to stand before," "to protect". While in the strict sense, it should be applied to childbirth or parturition, usage justifies its application to all phases of human reproduction, with midwifery and Tocology as synonymous.

The history of Obstetrics possesses a peculiar interest, since its status and its progress are most intimately blended with the conditions of the people and the extent of their civilization. However remote the period or crude the primitive peoples, in ancient or modern times, aid has always been given child-bearing women, as the warrior or hunter gives primary surgical aid to his wounded fellow.

In the most remote periods of human existence, labor itself was usually a normal process due to the fact that women lived out-of-doors, and there was no intermingling of races or even tribes. This tended to relieve any complications from contracted pelves. Labor was presumed to be a voluntary act on the part of the fetus and the character of the labor was presumed to depend on the disposition of the child. Therefore any child so perverse as to cause any change in the normal act of labor deserved to die, as did the mother who bore such a child.

In the second stage of this prehistoric development, manual aid was rendered by pressure on the abdomen from above or by shaking the women. Women were all delivered in a squatting position on the ground, the perineum being protected by sitting on a small mound of sand. In the third stage several different methods were used: In some places the placenta was allowed to be expelled with the fetus intact and then cut, dried and preserved. In other places the cord was severed as soon as the baby was expelled and then handled by one of three methods, it was either cut off, bitten off or a string was tied to the cord and the other end of the string attached to the big toe of the patient, who by gentle traction pulled out the placenta.

We next have what might be known as the religious era, because during this time priests were called in to assist midwives with difficult cases. Numerous shrines were erected to various Deities, where the sick and disabled went for assistance and voluntary fees were gifts to the gods.

In the Bible, abnormalities in parturition were observed, and the function of midwifery recognized more than 4000 years ago. In Genesis the first recorded instance of spontaneous version is given. Genesis XXXVIII 27-30, "And it came to pass in the time of her travail that twins were in her womb. One put out his hand and the midwife took and bound upon his hand a scarlet thread

saying--this came first. And it came to pass as he drew back his hand that his brother came out, and she said how hast thou broken forth? This breach be upon thee; Therefore, his name was called Pharez and after came out his brother that had the scarlet thread upon his hand, and his name was called Zarah."

The difficult labor of Rachel is also mentioned, to which, although encouraged by surroundings, and midwives, she succumbed. Exodus 1-16 "And it came to pass when she was in hard labor that the midwife said unto her - Fear not for thou shalt have this son also. And it came to pass as her soul was in departing (for she died) she called his name Ben-oni, but his father called him Benjamin.

It is interesting to note that the Bible gives accounts of the parturient being delivered upon a stool or obstetrical chair, the women being accustomed to helping themselves by pressing and pulling on some resisting object. Exodus 11-16, "And he said when you do the office of a midwife to the Hebrew women and see them upon their stools, if it be a son then ye shall kill, but if it shall be a daughter then she shall live."

The law of Moses prescribes the purification of women after labor. It demands a period for her recuperation, and the return of her genitals to normal or unimpregnated condition.

The Egyptians of 4000 years ago were a highly cultured race, which lived in cities. The change from

a natural or nomadic life meant more or less of a change in the structure of the pelvis. This was the occasion for the development of the midwife. In addition to midwives, mystics and priests, the latter repositories of much knowledge of early times, gave assistance in difficult labors. Their experiences with the dead supposedly gave them a knowledge of anatomy, however vague.

The Obstetrics of ancient India left little to posterity in records. They thought the head should always come first, the face turned toward the maternal spine in prayer and looking to earth just before birth took place. It is thought also that they had knowledge of extraction by podalic version and caesarian section upon the dead. They advanced so far as to recognize various forms of presentations and abnormalities and had devised artificial means in their efforts to remedy the latter.

When we come to the Greeks we reach the fountain of recorded observation in arts and science. Naturally we like to invoke Hippocrates who lived in the fifth century B. C. and whom we affectionately revere as the Father of Medicine. The midwives of his day attended all the wants of the parturient, encouraging labor pains by massage, stimulation and emetics, making the patient walk about, even shaking her, if the labor is too long

delayed. If the patient died undelivered, the recognized practice was the immediate performance of a caesarian section and when the child was born alive, they sang holy songs to greet it. Midwives also induced abortions, which were thought legitimate if in accordance with the desire of the impregnated.

Much information relative to the parturient of the dark ages remains conjectural and obscured because of the difficulty of obtaining early records. In many instances records were not kept and if they were, they were destroyed. Medical science was driven east to the Arab physicians, but because of their nomadic tendencies nothing permanent was left.

From the sixth to the sixteenth centuries, the teachings of able men were replaced with ridiculous fanatical theories. Men were carefully excluded from the lying-in room and thus prevented from gathering the experience necessary to progressive innovation. It was pre-eminently the sphere of woman, and so considered until the era of modern science. Dr. Wirtt of Hamburgh Germany, who in 1522 attired as a woman, sought to attend and study a case of labor, was burned alive for his endeavor. Dr. Willoughby, 100 years later, while assisting his midwife daughter, was obliged to crawl on his hands and knees into the darkened room.

In spite of these obstacles however, some notable

advances were made during this period. In the thirteenth century, Bishop Paulus of Spain was accredited with performing the first Caesarean section on a living woman. Other advances were the teaching of Hippocrates, the performance of podalic version and extraction after version, the founding of the Galenic school of Medicine by Galen, the introduction of the vaginal speculum by Soranus.

By the beginning of the seventeenth century there was good reason why all departments of medicine should make great progress. Interest in ~~in~~ letters, art and science had revived and the discovery of the art of printing permitted the diffusion of knowledge with increased rapidity.

The real genius in Obstetrics appeared in 1623 in France, Ambrose Peré, whom Smellie honored in the expression, "the famous restorer and improver of midwifery". Peré was in association with the school of Paris, at that period, the foremost in the world, and surgeons of his following thought it not beneath their dignity to emulate Peré even in the realm of Obstetrics. For the first time in the modern era men began to encroach upon the domain of midwives, to dispel the inherent modesties of women. Pere practiced the caesarean section on living women. He recognized five positions assumed by the fetus, but declared he was ignorant as to which was normal.

To this period belongs the discovery of our modern obstetrical forceps by Peter Chamberlain who practiced in London, under license of the Barber- Surgeons Company, 1598-1630. He was accoucheur to the queens of James I and Charles I. The three generations which followed him, kept the family secret which was finally sold to Roonhysen of Amsterdam in the later part of the seventeenth century.

In the seventeenth century, men-midwives as obstetricians were called, were fashionable in France. Maurceaus was pre-eminent among these. He corrected the idea prevalent that ammiotic fluid consisted of maternal blood and milk; he described the phenomenon of normal labor, he called attention to placenta previa; he described the necessary steps in the performance of version; he denied the separation of pelvic bones in labor; also he discussed the difficulties of the umbilical cord and epidemic puerperal fever.

The nineteenth century found obstetrics well established in all parts of the civilized world, its principles well understood and comprehensively set forth in text books of different languages. During this century, Germany and Austria are in the front ranks of medical science. In Vienna, Ignatz Semmelweis preached the "doctrine of cleanliness to deaf ears" and lost his mind in disappointment when his efforts failed. The following generation realizing that his hands, dipped in chloride of lime, were by far cleaner than the hands

than the hands of those who scoffed at his theory, They erected a monument to his honor.

The most brilliant and useful discovery of this century was that of chloroform anesthesia for labor by James Simpson of Edinburgh. Morton and Jackson discovered sulphuric ether to eliminate labor pains. In 1843 Dr. Oliver Wendell Holmes wrote a noteworthy essay on "The Contagiousness of Puerperal Fever" and was ridiculed for his effort.

In general medicine two important advances were made which affected the practice of obstetrics materially. Louis Pasteur correctly described the morphology of bacteria and their relation to disease. Lord Lister fought bacteria by spraying the operating room and everything in contact with the patient with carbolic acid.

In modern times, among the Mexican Indians and certain negro tribes of Africa, obstetrics persists unadorned by modernization. These simple peoples with their primitive resources, before the taint of present amalgamation of races had become apparent, were by no means as helpless as might appear. Labor was more natural and the parturient was exposed to fewer dangers, since it is now known that difficulties of childbirth increase proportionally with progress and civilization. This

is not due so much to the degeneration of humanity brought about through lives of relative ease and luxury as it it is to the danger of infection in crowded localities, and the increasing disproportion between the passage and the passenger, i.e. a change in relationship between the head and the pelvis, fostered perhaps by an admixture of races, resulting in hybrids, progenitors of future mutations. These elements of danger are lacking in the primitive peoples, where intermarriage of races, or even tribes, is almost unknown.

Guided by natural instinct, and the custom of her tribe, the expectant mother prepares for her sufferings in seclusion, usually near a stream into which she may plunge immediately after delivery. Here her tent is pitched and only those who have had easy uncomplicated labors resulting in healthy offspring are allowed to retire. Only along the borders of civilization, where natives are confined legitimately or otherwise is labor looked upon with any degree of apprehension.

As in prehistoric times, these peoples think that labor is due to a fetal desire to change its environment and so it begins to move. They believe that the character of the labor is dependent on the disposition of the child and that any fetus so perverse as to cause difficulty merits death, together with the one who was so evil and cursed as to bear such a one.

We may look to the obstetrical practice of a people as indicative of their civilization, culture and morale. In America the practice of Obstetrics is considered not alone as worthy of the physician, but as one of the most important branches of his art, and in this country confinements among native-born women are, as a rule, conducted by physicians. In striking contrast to this in older countries, even among higher classes the treatment of women in labor is largely the province of the mid-wife. With the growing importance of anatomical and physical knowledge and the supremacy of the male scientific obstetrician, local and national customs gradually fade away and the obstetric art assumes a more important position among the various branches of medical science.

In the United States the dangers of childbirth are reduced to a low degree. We have accepted and popularized the technical aspects of medical science more extensively than any other country. We are planning more complete courses in the theory and practice of obstetrics for the medical students and nurses. We have the Maternity Center Association in New York, giving out authentic information and instruction to expectant and prospective mothers through publications,

prenatal letters, and group instruction including mothers' classes. In Oregon we have a plan patterned after that of the Maternity Center Association in New York, which is conducted by the State Bureau of Public Health and Hygiene. The middle states are also doing similar work and following the lead of the New York Center. The great importance of this work is that it will contribute permanently to the welfare of the future generations.

On the whole people are becoming more consciously Public Health minded. They are taking a great interest in vital statistic reports and other public health material. The Public Health Nurse has a very definite relationship and obligation to teach and to help the community, and to prevent disease and death among its members. She should cooperate in every way with the various agencies of the community.

The Bureau of Public Health Nursing in Oregon was created in 1919, for the purpose of standardizing and supervising Public Health Nursing in Oregon, particularly in the rural districts. During its first 18 months it was subsidized by the Oregon Tuberculosis Association, and a small subsidy was also contributed by the Red Cross for supervising the Red Cross Nursing services in the state. In 1921 an appropriation for $20,000 was granted by the state legislature for financing the bureau, and a separate budget has been maintained. The Bureau is under the direction of the Executive Sec-

retary of the Oregon State Board of Health.

A good understanding of the significance and purpose of prenatal care must be had before an attempt is made to establish an intelligent and practical program and to define the relationship of the physician and the public health nurse to such a plan for the state. According to the standard of prenatal care formulated by the committee appointed for that purpose by the Children's Bureau, "Prenatal care is that part of maternal care which has as its object the complete supervision of the prospective mother in order to preserve the offspring's and her own life, health and happiness." All pregnant women should be under medical supervision during their pregnancy, since it is only by careful routine prenatal care that pregnancy and labor can be made safe.

To insure the comfort, happiness and good health of the prenatal mother, the laity, the clinic, the family the physician and the public health nurse should cooperate to help the mother to make the best of her environment to secure proper nutriment, to do appropriate work (general house work) and see that recreation is provided. We should guide these mothers to make the most of the facilities they have, and in cases of need, assist them to obtain necessities which they lack. We should as Public

Health Nurses win the confidence of our patients and assure her of our interest in her and her problems.

In educating the laity, articles from time to time on subjects related to maternity are published in newspapers, magazines, and bulletins of lay organizations. Addresses by speakers provided through the cooperation of the State Medical society are given to P.T.A. Associations, Men's and Women's Clubs, Auxiliarys and other groups. An annual notification regarding information and instruction in prenatal and early infant care is available from the State Department of Health. If notified by the doctor, nurses, friends or pregnant mother herself, a copy of Prenatal Care a Federal publication prepared by a special committee of obstetricians is sent to the expectant mother. Prenatal letters can also be secured, arranged so that the mother receives about 9 letters before her 8th month. The Maternity Center has provided Mothers' Classes, a course of six lessons for the expectant and prospective mothers. The subject matter is prepared in accordance with accepted principles of prenatal care, and outlines are given to the Public Health Nurse who conducts the class and to the registrants for the class work.

The keynote of prenatal instruction is the need of medical care, i.e. medical examination early in pregnancy and medical supervision throughout pregnancy, delivery and the puerperium, and a final examination and

necessary repairs before dismissal of the patient.

The aim of the Public Health Nursing program is to have the prenatal mother examined by her family physician once each month until the eighth month and every two weeks during the last two months for general inspection, weighing, blood pressure, urinalysis and advice. It is her obligation to teach the hygiene of pregnancy, the needs and advantages of medical care throughout pregnancy delivery and the puerperium, Also to promote follow-up visits by the local public health nurses to patients in their homes for the purpose of interpreting doctors directions and teaching patients how to carry them out, observing the patients general condition and reporting to the physician. Permanent service and regular consultations are given mothers unable to pay for the service through the Oregon Medical School clinic.

Expectant mothers are given directions for home confinements as to the articles needed and the amount of materials necessary. Directions are given for the making of supplies. Lists of those to be sterilized are marked and directions for sterilization are given. The P. H. N. helps the expectant mother choose the confinement room and bed. Also instructions as to what to do when labor begins are given the mother.

The need of medical supervision until the mothers condition returns to normal at about the sixth to the

eighth week after delivery, and repair of any existing injuries should be emphasized to the patient. The Public Health Nurse gives general care to the mother and baby for the first eight days after delivery, and she demonstrates the care necessary to those who will stay with the mother during the day.

Simple rules of Prenatal Hygiene are sent or given to prospective mothers upon request either from the physician , public Health Nurse, friend of the patient of the patient herself. Among these health suggestions the mother is reminded that she is like an athlete training for a race or a swimming contest, who lives according to the rules worked out ,with the test he will have to meet in mind. The prospective mother's test is her confinement, and her goal is health for the baby and herself.

When the patient is first seen a good history should be taken to bring out the events of her past life. Facts relative to her development and nutrition should be elicited. History of previous diseases and vaccinations also her condition during previous pregnancies should be ascertained. We should urge the patient to see her family physician, or if she has none and cannot afford it, tell her how to make arrangements at the clinic.

It should be impressed upon the patient that one physical examination is not sufficient but that she must be seen repeatedly during pregnancy in order to be supervise

intelligently. If this is not done some serious condition may develop. Many patients do not come as long as they feel well, but we should explain to them that this isn't a safe guide, as many do not feel ill until some toxemia or other condition has reached a serious stage. It is therefore necessary for the private physician or the public health nurse to follow up these cases at least until the laity is more cooperatively intelligent regarding prenatal care.

In making home calls the following talking points are often enlarged upon:

In discussing diet with the patient, it should be made clear to her that she may have a generous mixture--that is, the essential elements that go to make up a well-balanced ration, proteids, fats, carbohydrates, a liberal amount of water and a satisfactory amount of mineral matter. Help the patient to choose things within her budget and vegetables and fruits that are in season. We should help her to rearrange her prejudices and dismiss all superstitions or old sayings, such as "the pregnant woman must eat for two," this has long been exploded. She must be warned not to listen to her friends about the food that she should eat, for she may eat any kind of food that she knows she can digest. If she has an idiosyncrasy for any type of food, of course that food must be eliminated from her dietary during her pregnancy.

Explain how the proteid food puts more strain on the kidneys sothat the patient must be advised to have a low proteid intake, especially the latter part of pregnancy. There is absolutely no need that she eliminate all meat fish, and eggs the last two or three months of pregnancy, as many women think. Too high an intake of fats and carbohydrates makes the patient gain rapidly and will frequently cause indigestion. When too much carbohydrates food is being eaten, sugar frequently appears in the urine; and unless it is quickly cleared serious damage may result. Milk, fruit, and vegetables especially the leafy ones add to the vitamins and mineral substances that are needed during pregnancy, also to the amount of water taken. Coffee and tea must be used in moderation, and alcohol should be omitted.

The patient should be advised to consult the physician about exercise. All strenuous athletic exercise should be prohibited. Walking is advised by most physicians as being the best exercise for the pregnant woman. Many patients get much exercise in their house work, and they should be cautioned about overdoing, lifting heavy pieces of furniture, or doing a hard days washing.

It is very necessary that the patient be reminded that rest is necessary to their well-being. Eight hours' sleep every night is essential.

Recreation is extremely necessary for the pregnant woman. She should be cautioned however about taking long automobile rides over rough roads.

The patient should be advised in regard to clothing, she should have clothes that are warm, but never tight. The garments should preferably hang from the shoulder. Maternity corsets often make the women more comfortable through their added support. Low heeled, well-fitting, well-shaped shoes should be worn.

Daily warm bathing should be advised as it keeps the body clean and the pores wide open, which are one of the three means of excretion. It is well to explain to the patient that as the pregnancy advances and the abdomen enlarges little red lines may appear, due to the stretching of the skin. This stretching often gives a sensation of burning and tingling. Nothing need be done in regard to these little red lines except to assure the patient that no harm will come from them. External applications occasionally make them feel a little more comfortable but will not eradicate them. The marked pigmentation that sometimes appears, especially in brunettes, is annoying, but assure the patient that it will disappear after delivery and in a few weeks she will have her normal complexion.

More necessary than the care of the skin is the care of the bowels and kidneys. The patient must have at least one good defection a day. She should be reminded that the baby is growing rapidly and the products of not only her own metabolism but of the baby's metabolism must be eliminated, and that is done by the skin, bowels and kidneys.

The patient should be advised to have her teeth cared for during pregnancy. There is a deep-rooted idea among the laity that women should have no dentistry done while they are pregnant. There is a saying "For every child a tooth." However, necessary work must be done and patients should be advised about ~~breaking~~ brushing their teeth regularly after every meal.

The patients mind should be put at rest regarding pre-natal impressions. No baby is "marked" because of some unpleasant sight which the mother saw during pregnancy. From the physiological standpoint there is no possibility that such a thing as this can occur, and it is wise to make this clear to the patient early in pregnancy.

All fears of the patient should be cleared up and she should be assured that all will come out well if she continues to work with the physician. Clear up the ideas that bother them, give them the right mental attitude.

It should be made clear to the patient that the P.H.N. calls are not taking the place of her visits to the physician. The public health nurse should have a conference with the mother after she has talked with her physician as to where she should be confined. Advise her as to the layette and her own necessary clothing and if it is to be a home confinement, instruct her how to make Kelly pads from newspapers and the other necessary supplies, explain how to sterilize them and put them away. Talk over with her the arrangement of the room, the

lighting, and the boiled water which should be prepared. She should be instructed about the baby's basket or bed and the necessary bed-clothes, the baby's toilet tray, and the empty fruit jars that may be boiled and used.

The human mother is not endowed by nature with the knowledge of her needs during pregnancy or the needs of the baby after his birth. She must acquire this knowledge through information and instruction provided for her by her available authorities.

Statistical tabulations and analyses in regard to maternal and infant mortality have been made. Further studies in the evaluation of records for reliability, and completeness are being worked upon.

The program of our Oregon Bureau for parent education provides guidance and specific instruction in preparation for family life. We have hopes that the budget will be increased so that more can be reached. "For every child has a right to this teaching and training so to prepare him for successful parenthood, homemaking, and the rights of citizenship, and for parents so that they may receive supplementary training to fit them to deal wisely with the problems of parenthood."

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