

# The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 103, No. 5

CHICAGO, ILLINOIS

AUGUST 4, 1934

## OBSTETRICS VERSUS MIDWIFERY

CHAIRMAN'S ADDRESS

JOSEPH B. DE LEE, M.D.  
CHICAGO

The dictionaries say that the terms obstetrics and midwifery are synonymous but I would draw a distinction between them. The term midwifery should apply to the practice of caring for women during childbirth by the old blind, empirical methods, while the term obstetrics should connote the fact that to the wisdom gained by experience has been added all the knowledge supplied by recent scientific investigation. In short, midwifery is the practice of midwives, male and female, and obstetrics is the practice of the scientifically trained physician.

For many centuries the midwife reigned supreme in her field, and only on rare occasions did the surgeon-physician intrude—and then his accomplishments were not praiseworthy—for which not himself but the customs of the times and the degradation of women were to blame.

Hippocrates, whose mother was a midwife, and he the son of a line of physicians, knew very little about childbirth. He thought the child somersaulted into a vertex presentation, at about the seventh month of pregnancy, and every month braced his feet against the fundus uteri and tried to leap into the world. Though his knowledge of the mechanism of labor was little and faulty, he organized midwife teaching and gave a classic description of the death from puerperal peritonitis of the daughter of his friend Telebulos.

For many centuries men were forbidden access to the birthroom and had to get their knowledge of birth from animals. Therefore when called to a complicated labor all that they could do was to destroy the fetus and extract it piecemeal—and the instruments they possessed were crudely destructive. True the Jews, about 200 years before Christ, had done cesarean sections and some of the women and children had survived, but the operation had a terrific mortality.

For 1,500 years after Christ, midwives and slave doctors had almost complete sway in the delivery chamber. The midwives pursued every device to retain their control, and the doctors could learn nothing of normal delivery. The fact that they were helpless in obstructed labors, except for their destructive instruments, made their situation worse, because, as Smellie said, the women took great alarm when a man midwife was to be called, since they knew that then either the mother or the baby or both were lost.

In 1509, Paré reinvented podalic version and midwifery practice by men began to improve. About 1664, Louis XIV insisted that his friend Dr. Clement be allowed to deliver his mistresses and at the court the influence of the midwife began to wane. In the sixteenth century, Dr. Werth of Hamburg was burned alive for having attended a normal labor in disguise, the midwives enjoying a "racket," and in several lands the contest between doctors and midwives for the control of the lying-in room still persists.

The invention of the obstetric forceps, about the beginning of the eighteenth century, gave the greatest impetus to the movement to have men attend women in labor, but until very recently the practice of normal obstetrics by physicians has been looked down on by the profession and by the public as well as by the midwives.

Labor was considered a normal harmless function not requiring the attendance of anybody but one capable of cleaning up the soil afterward, and therefore it was beneath the dignity of a real physician.

In Germany, in 1751, Roederer publicly demanded that the same dignity be accorded the accoucheur as the physician and surgeon but he received little acclaim.

This disesteem in which obstetrics has always been held adverted to the doctors who felt the desire to be helpful to the distressed woman in labor. In England they were dubbed men-midwives, and some of the men who have left illustrious names in Britain's medical history were held in contempt during their lives.

Astonishingly, as late as 1825, a man-midwife was denied admission to the Royal College of Surgeons, and his friends would not be seen shaking hands with him on the street; indeed, thus complains Ramsbotham, one of the British obstetric luminaries of the nineteenth century. Queen Victoria had midwives for her earlier labors. In 1850, when Dr. White of Buffalo delivered a woman before a class, he was denounced by the press and his own profession, and tracts were circulated declaring that "the employment of men to attend women in childbirth is unnecessary, unnatural and injurious."

As with the practice, the science of obstetrics and its teaching lagged behind medicine and surgery. Semmelweis, Pasteur and Lister showed how to prevent puerperal infection and Simpson gave woman anesthesia. Now, armed with the obstetric forceps and these two, which were soon followed by cesarean section, the obstetrician felt that he was master of the birthroom.

But some of the old opprobrium still clings to the obstetrician and his work. The public in many places still believes that his accomplishments are less than those of the medical man and the surgeon. The medical schools, in many universities, still rate obstetrics as a minor specialty, and even today students leave their

Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Eighty-Fifth Annual Session of the American Medical Association, Cleveland, June 14, 1934.

campuses with a debased opinion of the science and art of obstetrics, which opinion is bound to result in an inferiority of the work they will do.

Hospitals do not provide facilities for obstetrics that are the equal of those for surgery. Let any one compare the surgical operating room with the delivery room in his own hospital, and let him think over which one receives the most service.

All my medical life I have striven to eradicate this low opinion of obstetrics and to place on equally high pedestals the three primary branches of medicine, obstetrics, medicine and surgery, all equally important, all equally dignified. Of course I have not been alone in this endeavor. Jaggard, my predecessor at Northwestern, Hirst in Philadelphia, Williams in Baltimore and many others have been waging the same fight and a great deal has been accomplished.

It is therefore with great pain and some alarm that I notice a trend in Britain and in spots of our Eastern seaboard, a reactionary trend, toward the state of midwifery. Perhaps I had better make known the grounds for the claims, which some might call extravagant, that I make for obstetrics as opposed to midwifery. In other words, let a scientific examination be made of this function which the medical profession is asked to turn over for safe conduct to persons taken from the ignorant classes, without college educations, without cultural development, unschooled in the fundamental sciences of medicine, untrained in the practice of medical and surgical and obstetric arts, blind watchmen at the bedside of birth and death. Indeed, the mere hint of such a reversion offers an insult to one's intelligence, than which there is no greater affront.

#### DISTURBANCES OF PREGNANCY

When a woman becomes pregnant she at once begins to undergo changes that affect every organ and every fiber of her being; and since these changes readily pass over into the pathologic, it is vital to her health that her physician know what is going on.

Making only mention of emesis gravidarum, which in its varying degree is quite common, I would call attention to tuberculosis, heart disease, latent kidney disease and mild toxemias, of which hypochromic anemia is one. The term hydremia, which older writers applied to the blood in pregnancy, has been learned to be known as toxic anemia, and it is responsible for not a few disturbances in pregnancy and labor. It seems to become worse with multiparity. In some cases it is the sequence of a focal infection, and a search for its cause may lead to the discovery of an endometritis, a pyelitis, a nephritis, appendicitis, gallbladder infection, abscessed tonsils or indeed an endocarditis.

In these obscure, often hidden, conditions may be found the causes of some cases of abruptio placentae and autogenous sepsis during and after labor. In women suffering anemias during pregnancy, one should look out for postpartum hemorrhage, thrombosis, embolism and puerperal infection. There is also good ground for suspecting that infectious foci may upset the endocrine balance and thus cause eclampsia and allied toxemias or disturb the water balance by the changes effected in the kidneys and liver, leading to metabolic complications. How it happens is not known; but there seems to be a relation between toxemias and latent sepsis.

The fetus requires careful attention during pregnancy. Syphilis needs only a single word. What to do for that is well proved; but the nutrition of the baby

must be thought of and it must be protected from infection. Infectious foci in the mother can cause abortion, monstrosities, abruptio placentae and placenta praevia. It is necessary to learn how to protect the fetus from hemorrhagic diathesis, fragility of the blood vessels, which invites cerebral hemorrhage even during easy delivery, imperfect dentition, rickets, and an effort is being made even to find out how to develop its immunities against all the infections that beset it during and after birth. Truly this is a large order, indeed a reaching for the sun; but this is only one of the hopes of prophylactic obstetrics.

#### LABOR

As far as the mother is concerned, the most important question the scientific obstetrician must answer is: How does the patient stand on the threshold of her labor?

1. Has she been cured of all the major and minor diseases that threaten her and her baby? I have just mentioned a few.

2. Has her mind been prepared for the mental ordeal through which she is about to pass? The element of fear must always be taken into account in prenatal care and cannot be tossed aside with deliberate neglect or a casual slighting remark.

Fear is a real menace to the well being of every pregnant woman: fear of death and fear of pain. Fear of death has caused many cases of postpartum shock and actual dissolution, and fear of pain, which throws off the equilibrium of the sympathetic and autonomic innervation of the uterus, has caused many cases of physical dystocia, which have eventuated in forceps, lacerations, postpartum hemorrhage and maternal and fetal deaths from injury and sepsis.

Fear of pain and pain itself can cause hypo-epinephrinemia, and thus some postpartum cases of shock are explained. It would be silly to deny that labor is attended by pain, but the amount of actual suffering varies in different women.

A large part of the pain in labor is subjective and is due to the changes, cultural changes, which are mostly mental, in the human female, resulting from civilization, and a part is undoubtedly due to suggestion by the friends of the parturient and by the magazine publicity, which is so profuse at the present time. A small part is due to local anatomic changes produced by the mode of life, racial mixtures and disease.

There is much reason for believing that if women could return to a more natural, primitive state, mentally and physically, their labors would reassume the known qualities of the function among primitive peoples, and the element of pain would show a corresponding decrease in intensity. I agree with Dewees and Grantly Read that the pain of labor is pathologic.

In addition to the element of fear there are variable limits which nature sets in women as to their ability to endure pain, wakefulness, and mental and nervous strain. A proper evaluation of this ability and the institution of treatment resulting from it will prevent most cases of neurasthenia and the exhaustion psychoses, which at the present time are not uncommon.

3. Has the parturient been brought into the best possible physical condition for the mechanical and metabolic strain of labor? How about her heart, lungs, abdominal muscles, pelvic floor and the connective tissue framework of the pelvis? How much work and stress can be expected of them? Has the woman "trained" for her athletic contest?

How about her liver, kidneys, hematopoietic system and hormonopoietic system?

4. How about the mechanism of labor? What kind of a motor is the patient's uterus? How is the cervix going to act? Only lately has it begun to be realized that the cervix causes much more dystocia than the pelvis. What kind of a pelvis does the patient have? It is easy to tell whether it is big enough, both at the inlet and at the outlet, but what is its shape?

Will it cause an occiput posterior position? Is it one that calls for a version, or if forceps becomes necessary should the occiput be brought out over the perineum instead of the orthodox way from under the pubis? Or is it one in which one of the later styles of forceps should be used, or indeed the forceps operation be never even attempted? Or is the pelvis such that, if the breech presents, the obstetrician should flex the head in leading it into the inlet, or deflex, or lateriflex it, or perhaps deliver with the chin toward the sacrum or to the pubis?

5. And the baby: Is it too large, too small? Does it lie well for engagement? Is the head flexed, deflexed, synclitic, asynclitic? If it is a breech, is the spine curved, straight, are the legs extended, is the head flexed, deflexed?

Many of these conditions can be learned by roentgen study of the woman in labor and it will not be long before every up-to-date maternity will use radiography in the birthrooms.

All these and many more things the intelligent obstetrician must know at the time when labor declares itself, in order to plan the conduct of labor scientifically. And on his knowledge or ignorance of them will depend the life and health of the mother and of the baby, and it is this knowledge or ignorance that makes one of the distinctions between obstetrics and midwifery.

Another difference between the two modes of practice becomes evident during the conduct of labor, and here is the place to call attention to the abuse of the "test of labor." Jaggard introduced the term "watchful expectancy" as a principle of the conduct of labor. He distinguished sharply between a masterly inactivity and a supine waiting policy; but unfortunately the test of labor has often become, as one of my residents described it, "hopeful procrastination."

I should like to modify Jaggard's phrase to "intelligent expectancy," and by this I mean that all the conditions set down in the five numbered preceding paragraphs have been intelligently studied and then after a careful sifting of the factual observations a definite course of expectancy has been decided on.

What is seen most often is that when the patient goes into labor, she is allowed to suffer until irremediable damage has been done to her and her baby, then the test of labor is said to have failed and cesarean section or some other inappropriate measure is employed. The time to decide on cesarean section is at the beginning of labor, and if a preliminary test is to be given it should be short. A well qualified obstetrician does not need a very long time to prove to himself that a natural termination of labor is not to be expected, and also whether such a long process can end with a healthy mother and a healthy baby.

Prolonged labor affects the mother in many ways. First it wears down the nervous system, favoring, in predisposed subjects, neurasthenia, exhaustion psychoses, even puerperal insanity. It is also a psychic shock which influences the woman's whole life and may

prevent further childbearing and marital unhappiness, even divorce.

Prolonged labor, especially after the bag of waters is ruptured, is one of the most fertile causes of pelvic infection. Owing possibly to hormone changes in the cervix and vagina, which, according to Miura, Loeser, Cruikshank, Sharman and others, affects the glycogen content of the vaginal epithelium, or to the variation in the hydrogen balance, altering the acidity, or to the wandering of bacteria through the rectovaginal septum, or to all three of these, the bacterial flora in the vagina acquire invasive qualities. I shall speak of infection again.

Protracted labor has undeniable effects on the endocrine and metabolic systems, and this is true even in the first stage, in which only the uterus is engaged in muscular work. Worry, prolonged moderate physical exertion, sudden overwork unbalance the suprarenals, the thyroid and the pancreas. The cerebral congestion that is so visibly marked in the second stage of labor must have some effect on the pituitary gland.

A "solar plexus" blow can lay out a fighter. During labor the organs in the upper part of the abdomen receive many blows. Theobald has shown that the function of the liver is much affected by increased intra-abdominal pressure, and this influence the pancreas also feels. Hyperinsulinism and hypoglycemia must always be thought of during labor and particularly in cases of shock post partum. The weakness, nervousness, "gone" feeling in the epigastrium, the state bordering on collapse, the tremor, the pallor, the sweating may be cured by the giving of dextrose.

The effects of muscular effort must be remembered. Any medical director of athletics knows that ketosis, dehydration, increased viscosity of the blood, dechlorination and finally acidosis will result from prolonged muscular exertion, especially in hot weather when sweating is profuse. These conditions exist during labor and unless relieved by food and water and salt may have serious consequences; indeed, such are much more likely if the acidosis of anesthesia is superadded.

To allow a labor to become unduly prolonged is midwifery, and how often does one see it!

Another familiar example of midwifery practice is the neglected high occiput posterior. Usually the gravida has been allowed to go over term and the baby is overgrown and hard. The bag of waters ruptures, the head remains high, with the occiput behind the transverse diameter, in moderate deflexion, and occasional asynclitism; the cervix remains long and often hard; the vagina is tight, the pelvic floor rigid; the pains are erratic in time, strength and regularity. I confess that these are among the most perplexing cases for which to pick out a line of conduct; but one must decide early exactly what one is going to do and, if abdominal delivery is rejected, one must not let intelligent expectancy become hopeful procrastination. If one does, the result is, after several days, arrest of labor with a thick undilated cervix, the head near the midplane, the mother exhausted, probably infected. Then, too late for section, the case is terminated by Dührssen's incisions, high forceps, episiotomy, postpartum hemorrhage and an injured or dead baby.

#### A NATURAL DELIVERY

In a natural delivery, under strong pains the head is forced through the bony pelvis. Putschar, on the examination of eleven women dead shortly after delivery, found that the pelvic joints always showed signs

of damage, hemorrhages and tears of the binding tissues and clefts showing in the pubis. Later come backache and arthritis.

The state of the cervix after labor is notorious. Its evils are well understood. One of the consequences of cervical injury and the infection that almost invariably accompanies it is parametritis postica, an inflammation of the uterosacral ligaments, to which, in America, too little importance is attached. Another sequel of cervical infection is paraproctitis, which may advance even to mesosigmoiditis or colitis. All these conditions may be the cause of backache, constipation, hemorrhoids and invalidism.

I can only mention the damage labor makes on the pelvic connective tissue framework, and the frequent rectocele, cystocele, descent of the uterus, patulous vulva and low grade infection with the long and wretched trail of symptoms, which, while they do not incapacitate them, destroy the pleasure of life in so many women and which add to those conditions that make for domestic and marital unhappiness. Women are used up in bearing children and many husbands don't like an ailing, unresponsive wife.

Now how about the baby? From the very beginning of labor its troubles begin. Every uterine contraction forces blood into its vascular system and gives its heart a slight overload. This is augmented after the rupture of the bag of waters. Thus perhaps may be explained some of the cases of atelectasis following delivery, and the peculiar metabolic disturbances of early life.

Guttner made experiments on guinea-pigs placed in a pressure chamber. They are crude but they have some value. He found that intracranial pressure is increased with each pain, owing to overfilling of the cerebral vessels. Slowing of the heart is due to cerebral pressure, increase of carbon dioxide, which irritates the vagus, and increased arterial tension. The brain therefore suffers the effects of a vicious circle, which are local acidosis, edema, cyanosis, increased fibrinogen in the blood, chemical changes in the brain, and minute and larger hemorrhages. All these effects reach the highest point after rupture of the membranes and at the end of the expulsive stage, which really is often an explosive stage.

The attention of those who recommend the routine rupture of the membranes at term might, with much fitness, be called to the foregoing observations.

During delivery the child suffers somewhat as do caisson workers, and the compression during its passage and decompression on emerging may be attended by shock and coma and hemorrhages in the brain and other vital organs. The liberation of nitrogen in the fetal tissues, to complete the picture of caisson disease, has not been proved.

These hemorrhages occur often enough in regions that make it possible to locate them clinically; but since the mind, the reason and the will develop later in life, one cannot say how often destruction of portions of the brain governing these functions has occurred during birth. I believe it happens very often, and one of the grounds on which I base this belief is my own observations of the better health of children delivered by cesarean section compared with those entering the world through the natural passages and from analogy. Men after suffering asphyxia, as from drowning, automobile exhaust gas, carbon monoxide and concussion of the brain, often suffer weakness of memory, acalculia, headaches, aberration of the will and even grave mental disorders.

I am afraid I may be accused of having drawn too dark a picture of the dangers attending and the disabilities following childbirth, and that my notice may be called to the great numbers of women who have had large families and apparently are none the worse for it. I agree to a considerable extent, but I wish to call attention to the immense army of women suffering, if I may coin the phrase, subinvalidism and who say they have never felt well since their first baby was born; I wish to signalize the not inconsiderable number who date permanent kidney disease from a mild toxemia in pregnancy, or permanent liver damage or suffer the sequelae of dislocation of the pelvic organs, to which I have made brief reference.

I painted a true picture of pregnancy and parturition, using the colors supplied by modern science, to prove that obstetrics is a richly scientific member of the triumvirate of medicine, that it has become an art of great technical beauty and that its proper practice is far beyond the capabilities of the midwife, male as well as female. I have shown only a part of the knowledge a man must have to qualify as an obstetrician, and it is this knowledge and the application of it that make the difference between obstetrics and midwifery.

I desire to emphasize with all my might that these remarks do not mean that every labor must be terminated by mechanical art. With present knowledge and present means there is only one place where operative intervention can improve on nature in normal delivery, and that is in preventing damage to the pelvic floor. In all else it is safer to guide the labor along natural channels until dystocia becomes threatening or immediate.

Letting a woman pound the head on the pelvic floor for hour after hour is midwifery by omission.

Doing routine version and extraction is meddlesome midwifery, unscientific and pernicious.

Blasting the baby through the birth canal with solution of pituitary is meddlesome midwifery, unscientific and pernicious.

Cesarean section selected properly may be the finest kind of obstetrics, comparable to a scientifically conducted normal labor, but as it is performed today it is often an exhibition of the lowest obstetric intelligence, of which even a midwife would be ashamed. In the fifteenth century, midwives did cesarean sections.

The present is an era of prophylaxis. As Fairbairn has said of prenatal care, the aim must be a constructive regulation of physiologic function as much as the prevention of pathologic conditions. The conduct of labor must meet the requirements of modern womanhood. The woman nowadays demands a safe labor, freedom from unnecessary pain, a reasonable length of labor and, when she arises from her confinement, a complete *restitutio ad integrum*.

She also demands a healthy baby, undamaged by conditions affecting it during pregnancy, and free from the effects of traumatism during labor. Modern obstetrics can give the woman nearly all these things, and the people are willing to pay for them. They should not be given a midwife's services and be asked to pay an obstetrician's fee. Hospitals must turn out enough highly trained men to establish and maintain the ideals I have described, and here is where I must come down to earth.

#### ATTAINMENT THROUGH EDUCATION

There are not enough schools, teachers, material or public and professional support to supply real obstetricians for 2,000,000 births each year.

Fortunately the principles of the conduct of labor are not difficult to master. Nature is still on her job and, though perhaps somewhat destructive, she can do it better than unskilled human beings. Let doctors be taught the beauties of normal obstetrics, the principles of asepsis and the principles of intelligent expectancy, trusting much to nature. There will soon be a reduction of the national maternal mortality and morbidity.

In the meantime the medical profession can hold the vision of its ideals and struggle to attain them, and it will attain them only through education—education of the medical schools, of the universities, of the doctors and of the public.

5841 Maryland Avenue.