PRE-NATAL CARE.

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There is no doubt that one of the greatest advances which have been made in obstetric medicine since the discovery of the causation of puerperal sepsis, has been in the direction of pre-natal care. Practically all the difficulties and complications of this period, and of labour itself, are capable of prevention by recognition and treatment beforehand. It has been shown by Holland and others that between sixty and seventy per cent. of foetal deaths can be avoided by efficient pre-natal care, the complications of labour due to malposition and disproportion can be eliminated, a premature induction of labour in toxæmic conditions will often save the life of a child; furthermore, an intensive course of anti-syphilitic treatment will prevent the transmission of this disease to the child if started not later than three months before term.

The objects of pre-natal care are to make an examination as to the general state of health, to determine the presentation, to assess the size of the pelvis by calipers in the first instance and later by comparison with the size of the foetal head, to examine the urine, to look for any evidence of venereal disease or abnormal discharge.

The first examination is of prime importance and should take place early in pregnancy. Its object is to establish the diagnosis of pregnancy and the probable date of the confinement; also to obtain a complete history of the patient, to gain her confidence and allay any fears she may have, and finally to give her general advice.

The Previous History.

A history of previous heart trouble or tuberculosis or of previous illnesses such as rheumatism, diphtheria, scarlet fever, or rickets, is most important. If the pregnancy is not the first one, the nature of previous pregnancies should be enquired into. Any complaints of sickness, headaches, visual disturbances, sore throats, constipation or dyspnœa should be enquired for and noted. The first examination now follows. This includes the heart, especially for evidence of mitral stenosis or aortic diseases, and the lungs for tuberculosis; the abdomen for anything else except the pregnancy; the legs for varicose veins. Note the curve of the back with the patient standing; if the lumbar curve is exaggerated it suggests a high inclination of the pelvis. Take the blood pressure; any pressure reading above 140 mms. of mercury (systolic) should be carefully watched; a rise in diastolic pressure is significant. A search for septic foci should be made, the teeth, throat, nose and ears in particular should be examined. A history of repeated sore throats is of importance. The teeth should receive attention early in pregnancy as caries progresses rapidly. An examination of the urine for albumin and sugar should be made, and finally the pelvic measurements should be taken.

Instructions as to the Hygiene of Pregnancy.

Clothes should be light and warm, and should be worn loose from the shoulders. The diet should be generous without much meat, plenty of carbohydrates is essential, and vitamin A. and D. can be taken in milk and green

vegetables, failing which cod-liver oil and malt will supply them. Water should be drunk freely. Walking is the best exercise, failing which massage is useful. A daily tepid bath is advisable. After the sixth month the patient should lie down for one hour in the afternoon. A specimen of urine must be brought for examination every month for the first six months, every fortnight during the seventh and eighth month, and every week in the ninth month. The breasts should be sponged with hot water and then with cold water every morning. During this process the nipple should be held between the finger and thumb, thus tending to harden it. In the later months a little Eau de Cologne may be applied to the nipple, or it may be rubbed with a rough towel. The best purgative during pregnancy is phenolphthalein. Coitus is contra-indicated during the first three months and during the last four weeks of pregnancy. Lastly, the patient must be warned that any departure from the normal, such as persistent nausea, headaches, visual disturbances, chills, fever, lower abdominal pain, constipation, or diminution in the quantity of urine passed, is to be reported at once.

After this she should be seen from time to time, but the next important examination must take place not later than six weeks before term.

Examination at the Thirty-fourth to the Thirty-sixth Week.

This examination is very important and has two objects:—

(1) The determination of the presentation, and the degree of flexion of the foetal head. The presentation before this time is not of great importance, as a change of lie is very frequent. Sixty per cent. of breech presentations turn to a vertex about this time, while seventy-five per cent. of occipito-posterior positions become anterior before onset of labour. There are however, several points worthy of note. Great variability of presentation observed at different ante-natal examinations suggests some obstruction to the head engaging in the brim, such as might occur in the presence of contracted pelvis, placenta prævia, or where there are twins. The degree of flexion of the foetal head should be noted. This is estimated by the prominence or height of the sinciput relative to the occiput. Normally, the occiput is hardly felt as the head is well flexed. It can be taken for granted, when the head is well flexed in a normal pelvis, that labour will be normal, whereas a badly flexed head may result in rotation backwards into the posterior position when labour comes on.

(2) The other important information to be gathered from this examination concerns the measurements of the pelvis with calipers, and comparison with the size of the foetal head. Often the caliper measurements are taken at the first examination, but the most important caliper, "the foetal head," is not available until this stage. The measurements of practical value are, (a) *the Anterior Interspinous*. This varies within the normal of eight to ten and a half inches, it is not very important as it bears no relation to the true pelvis, but only gross degrees of alteration are of importance, and then only when taken with other abnormal measurements. It is often increased in a rickety pelvis.

(b) *The Intercristal Diameter*. Taken between the widest part of the Iliac crests. This should be eleven inches. Below ten inches indicates some transverse contraction of the pelvic brim. It is roughly double the transverse diameter of the pelvic brim, if below ten inches it means some transverse contraction of the pelvic inlet. (c) *The Posterior Interspinous*, four to four and a half inches, is very

constant and roughly measures the width of the sacrum at the level of the brim. If this measurement is diminished it is an indication of transverse contraction.

(d) *The External Conjugate*, measured from the tip of the fifth lumbar spine to the top of the symphysis, is remarkably constant at seven and a half inches. Anything below this indicates definite flattening of the pelvis.

All these measurements are concerned with the pelvic inlet, we must now consider the outlet. It should be possible to press the four knuckles of the first inter-phalangeal joints transversely between the ischial rami, immediately behind the vaginal orifice. If this can be done the interischial diameter is normal. With the first finger in the vagina there should be a recess large enough to take the pulp of the index finger against the back of the pubic arch at either side of the urethra. If this is so the subpubic angle is normal. Finally, a vaginal examination is made to find out whether the sacral promontory can be felt and how far the forefinger can be swept along the ileopectineal line. **THE INFORMATION TO BE GATHERED FROM THESE MEASUREMENTS IS AS FOLLOWS.** *In a normal pelvis* all measurements are normal, and the sacral promontory cannot be felt. *In a flat pelvis*, the external conjugate is reduced, the sacral promontory can be felt, all other measurements are normal. *In a generally contracted pelvis*, all measurements are reduced the promontory cannot be felt but the ileopectineal line can be felt unduly easily. *In the funnel-shaped pelvis* the measurements are as in the generally contracted pelvis, but in addition the outlet measurements are much reduced.

Although one is able to diagnose the type and degree of contraction by measurements, the existence of disproportion, with possible difficulty in labour can only be confirmed by noting the relation of the child to the pelvic brim. An examination in the later weeks of pregnancy will show the foetal head to be in one of three positions relative to the pelvic.

(1) *The head is engaged.* It is sunk in the pelvis and therefore fixed laterally, it cannot be moved from side to side. There is obviously no disproportion.

(2) *The head is partially engaged*, that is, the largest diameter of the head has not yet passed into the pelvis so that it can be moved from side to side an inch or so. Downward pressure usually causes the head to engage fully, so that there is no disproportion.

(3) *The head is floating above the brim*, being easily moveable from side to side. This is usual in multiparæ and is present in about twenty per cent. of primiparæ before labour starts. If this condition is found, an assistant should press firmly downwards on the fundus of the uterus, while the head is firmly pressed downwards and backwards by both hands of the obstetrician. Several things may happen.

(1) The head is easily pressed down into the brim, there is no disproportion.

(2) The head can be pressed into the brim but not through it. If labour is induced immediately it should terminate naturally.

(3) The head overlaps the back of the symphysis pubis. Labour induced at once would probably terminate in a successful forceps delivery.

(4) The head overlaps the entire thickness of the symphysis. The successful delivery per via naturalis is improbable.

(5) The head cannot be made to engage at all. Cæsarean Section is necessary. It is to be remembered that it is difficult to make a badly flexed head engage. If, therefore, there is any doubt, an examination under anæsthesia, and the employment of Munro Kerr's method is indicated.

The Examination of the Urine.

This should be tested every month for the first six months, every fortnight in the seventh and eighth month, and every week during the last month. The patient should be instructed to pass the morning specimen of urine in two portions after carefully swabbing the vulva from before backwards. A specimen of the second portion passed should be poured into a carefully cleaned bottle and sent to the doctor. If albumin is found, confirm by a catheter specimen, and take the blood pressure. If sugar is found a blood sugar estimation should be made. If between .09 and .18 milligrams per cent. it can be neglected. A history of venereal disease requires careful investigation.

Syphilis should be suspected if there is a history of miscarriages and premature still births. This should be confirmed by determination of the Wassermann reaction of *both* parents. If a patient is treated during the last three months, the baby will probably be healthy. Any purulent discharge should be investigated by taking slides and cultures.

ALBUMINURIA AND ECLAMPSIA.*

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For the purposes of this paper I shall consider 179 cases of toxic albuminuria of pregnancy and 78 cases of eclampsia which have been treated in the Maternity Wing of Queen Mary's Hospital for the East End during the past twelve years. I have to thank my colleagues Mr. Carnac Rivett and Mr. Alan Brews for allowing me to include their cases in my own series, a step which is valuable since the treatment of these conditions has been uniform throughout the department. During the same period, I have had under my care 122 other cases of albuminuria associated with pregnancy, *e.g.*, cases of undoubted chronic nephritis and cases where the albuminuria has been so slight and transient as not to be considered by myself as being of toxic origin.

In the autumn of 1927 I embarked on a survey of all the cases admitted up to that time with a view to determining the frequency of recurrence in the same patient, for I much doubted that the then generally accepted view was true, namely that albuminuria of pregnancy rarely recurred. The result of my enquiry satisfied me that recurrence was the rule rather than the exception. About that time I became stimulated by the able writings of Dr. James Young of Edinburgh

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