The Midwife.

LABORATORY TESTS FOR PREGNANCY.

THE ASCHEIM ZONDEK AND OTHER TESTS NOW WIDELY USED.

To date no satisfactory chemical test has been evolved for the determination of pregnancy. The Ascheim Zondek and similar methods are all biological tests—that is to say, requiring the use of laboratory test animals. There have been many techniques introduced for the laboratory diagnosis of pregnancy, but the first satisfactory method was that of Ascheim and Zondek, which made its appearance in this country in 1931. Unlike most new technical methods, the Ascheim Zondek Test rapidly came into general use, and now after almost ten years' experience in all parts of the world of its use, ample evidence has been obtained which fully confirms the early promise of this valuable technique.

An alternative method which is very frequently employed, sometimes in addition to the Ascheim Zondek, is the Friedman Test. In this the principle employed is much the same as in the Ascheim Zondek. It is, however, claimed that the method is more sensitive, technically it is less trouble, and certainly the results are obtained more rapidly, but it is doubtful if it is quite as reliable.

The Ascheim Zondek reaction is extraordinarily accurate, records of many thousand tests show an error of less than 1½ per cent., which compares very favourably with other well-established laboratory methods of diagnosis. This small margin of error must, however, not be entirely dismissed; it means in the average 15 wrong reports in every thousand cases, and errors have a most regrettable habit of coming in pairs, usually from the same doctor, a fact that is apt to make for strained relations when the Clinical Staff have been misled.

Positive results may be obtained as early as 14 days after intercourse, though in general the test may be said to be reliable from one month after conception until delivery.

Applications of the Test.

Apart from the early diagnosis of pregnancy which may be desirable on necessary domestic grounds, the test has very great value, as the following examples will show.

When the test is negative after pregnancy has been previously proved, fœtal death is indicated. The test is a valuable second line of investigation in the case of patients which are difficult to properly examine due to excessive obesity or other cause. It is valuable when there is suspicious vomiting or amenorrhœa. In the case of patients suffering from advanced tuberculosis or other serious condition which may render it desirable to terminate pregnancy. The test is also used as a valuable aid in the diagnosis of hydatidform mole and chorion epithelioma, or it may be used for testing for early evidence of the recurrence of these conditions, after removal.

Principle of the Test.

The principle of the test depends upon the increased excretion in the urine of a hormone from the anterior lobe of the pituitary gland. Though this hormone is always present in urine in small amounts, it is only in pregnancy that it is in sufficient amount to bring about the typical changes in the test animals. In the Ascheim Zondek Reaction immature female mice are used.

When they are injected with a urine containing increased amounts of this hormone, as is the case in pregnancy, typical changes occur in the ovaries in a few days; with the Friedman Test, rabbits are used in the place of mice.

Collection of Specimens.

Satisfactory results very largely depend upon proper collection of specimens, and though positive results may be obtained from specimens collected at any time of the day, it is highly desirable to send morning specimens of urine. Incidentally, a catheter specimen is quite unnecessary, and 8 oz. is sufficient for the test; a urinary preservative must on no account be employed. While undue delay in dispatch is undesirable, positive results have been obtained from specimens which have been days in transit.

Though no strict dietary preparation of the patient is necessary, overnight restriction of the patient's fluid intake is a help in raising the concentration of the hormone, though this step need not be pushed to the discomfort of the patient. Whenever possible drugs should also be withheld for the same time, when excreted in the urine some are liable to be toxic to the test animals.

A complete history of the case should be sent with the specimen, and this must include such information as the last menstrual period, history and date of previous pregnancies or miscarriage. Most laboratories keep very careful records of the results of these tests and they are grateful for subsequent confirmation or otherwise by the clinician of the findings.

These records often form the basis of important research into essential problems of human biology. W. J. H.

ARRANGEMENTS FOR EXPECTANT MOTHERS IN RECEPTION AREAS.

The Minister of Health has sent a communication to Local Authorities in the reception areas who are also Local Supervising Authorities under the Midwives Acts referring to the arrangements made for the confinement of expectant mothers evacuated under the Government Scheme.

The Minister emphasizes that under the general direction of the Medical Officer of Health the maternity work involved should be under the clinical supervision of an obstetric specialist or specialists who should, if circumstances permit, be in charge of the maternity unit for complicated cases. These specialists should also act as consultants in all ante-natal cases of doubt or difficulty, in the treatment of women suffering from serious illnesses of pregnancy, in cases of complicated confinements and in the treatment of puerperal sepsis. The services of one or more Medical Officers with sound obstetric experience to act as residents in the larger improvised Maternity Homes and to assist the specialist in other directions may also be necessary.

Authorities are asked to submit their proposals to the Minister for approval as soon as possible.

A number of appointments of additional obstetric specialists and of residential obstetric officers have already been made.

BABY CREMATED 3,000 YEARS AGO.

The solution to an archæological problem is suggested by Mr. T. Sheppard, director of the Mortimer Museum at Hull, following the discovery recently of a miniature Bronze Age funerary urn near Bridlington, Yorks. It was only three inches high and is about 3,000 years old.

The urn was in a larger vessel containing the cremated bones of a woman. Hitherto these miniature vases have been described as children's toys and incense cups.

Mr. Sheppard now suggests that the ashes of the baby in the small urn were placed with the larger vessel containing the ashes of the mother so that parent and child would be reunited in the after life.

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