OBSTETRICS IN GENERAL PRACTICE

Antenatal Care—I

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It is appropriate that this series of articles on the conduct of midwifery in general practice should begin with a consideration of antenatal care. The safety of midwifery rests not only upon the skilful management of labour, but also on the success with which the preventable diseases of pregnancy are prevented and the foreseeable complications of labour are foreseen. Only scrupulous antenatal supervision will permit us to anticipate and circumvent difficulties in this way. Some of this necessary supervision of the pregnant woman should be in the hands of her family doctor, whether he is to act as the accoucheur for a delivery at home or in a general-practitioner unit or whether he is to co-operate with his colleagues when delivery is to be in hospital.

Co-operation between the family doctor and the maternity hospital is more important now than ever before. There are barely sufficient hospital beds for all who need them, to say nothing of all who want them, and with the expected increase in the number of confinements in the next few years matters may get worse and not better. If all deliveries are to be conducted with the maximum safety to mother and child it is essential that the most careful selection should be made of those which are to take place outside hospital. Moreover, in such cases it is important that any complication or likely complication calling for a change of booking should be recognized at once and the appropriate change made. How antenatal supervision can help us to do these things will be the theme of the first two articles in this series.

Pattern of Antenatal Care

It has become customary for a patient receiving antenatal care to be asked to attend:

Monthly until the 28th week;

Fortnightly until the 36th week;

And weekly thereafter until she is delivered.

These intervals are quite satisfactory for a patient in whom there is no abnormality, but we must be prepared to alter them if events demand it. The appearance of an excessive gain of weight in the middle trimester, for instance, would certainly call for the patient to be seen again before the month was out, while a raised blood-pressure in late pregnancy may call for several daily visits to the patient's home to observe the response to rest. It is important that patients who do not keep their appointments should be followed up.

It has also become customary for patients to be subjected to almost identical procedures at each antenatal visit. They are asked how they are, the blood-pressure is taken, the urine tested, they are weighed, the abdomen is palpated, and the ankles are tested for oedema. Such a routine is at once an advantage and a disadvantage—an advantage in that we do not omit some important step, a disadvantage in that routines

of this sort tend to be performed mechanically and to distract us from some unexpected matter which should receive our attention. Moreover, throughout the course of pregnancy we are not equally concerned with the same things at each visit. The first visit is unique because it gives us our first opportunity of assessing a particular pregnancy in an individual patient. At a visit of a normal patient during the second trimester we would be concerned more with the recognition of early signs of toxæmia or anaemia than with anything else, while in late pregnancy the lie, presentation, and position of the foetus are vital matters. Antenatal care will be considered here, therefore, under three headings—the first visit, subsequent visits up to 32 weeks, and the last two months.

The First Visit

As has already been said, the first visit of a patient during pregnancy is a most important one. In general terms we are concerned with making the diagnosis of pregnancy, with recognizing any existing or pre-existing disease likely to influence pregnancy or labour, and with making appropriate arrangements for the confinement. In addition we have an opportunity of explaining to the patient what to expect during pregnancy and of giving her some simple general advice for her conduct throughout it.

Diagnosis of Pregnancy

The history will establish the duration of amenorrhoea. Direct inquiry should always be made about the patient's previous menstrual rhythm and if the last period was normal. Sometimes, instead of missing the period following conception, a patient has a brief show of blood of a few hours' or even of a few days' duration. When such a history is obtained the pregnancy usually dates from the last normal period. Nausea and vomiting, not by any means confined to the morning as popularly supposed, are useful pointers to a suspected pregnancy; so also are tingling or pricking sensations or slight discomfort in the breasts and an increase in their size. Frequency of micturition is much less helpful.

A firm diagnosis of pregnancy, however, will rest upon the recognition of an enlarged soft uterus. The fundus is seldom palpable abdominally before 12 weeks in a primigravida, but may be felt earlier in a multigravida. A vaginal examination, which should be made in most patients on the first or second visit, will confirm the uterine enlargement and provide a more accurate assessment of the duration of pregnancy than is usually possible nearer to term; a note made about the probable duration of pregnancy may be valuable later if post-maturity is in question. Vaginal examination will also permit the recognition of certain associated disorders such as the presence of an ovarian cyst, a fibroid, or a cervical polyp.

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It is probably unwise to attempt to assess the pelvic size at this time. Such an assessment is difficult to make, and the information obtained is of limited value without knowledge of the size of the baby's head. Moreover, the more vigorous examination required will be uncomfortable and perhaps distressing to the patient, and may undermine her confidence. A simple vaginal examination to confirm pregnancy, after explaining what is to be done, will rarely upset her.

Breast changes such as enlargement, darkening of the areolae, presence of Montgomery's tubercles, striae, and the expulsion of a small amount of fluid from the nipples are confirmatory but not diagnostic of pregnancy.

Date of Confinement

Once pregnancy is confirmed, or is reasonably certain, the approximate date of confinement may be estimated by adding seven days to the date of the last menstrual period and subtracting three months. This calculation is based upon the assumption that ovulation occurs fourteen days after the last period; in fact it occurs about fourteen days *before* the next period, so, if this can be expected twenty-eight days after the preceding one, the assumption is reasonably accurate. If, however, the patient's periods occur at different intervals—say, every six weeks—then we will have assumed ovulation to have occurred two weeks too soon and we must add fourteen days to the calculated date. Attention to this point may prevent unnecessary attempts at induction of labour later, if the patient appears to go overdue. When previous periods have been very irregular there is no means of knowing when the next one is to be expected, and no satisfactory calculation can be made.

The patient's previous medical, surgical, and obstetrical history should be recorded in detail and a general examination made. Blood samples should be taken for ABO and rhesus grouping, Wassermann reaction, and haemoglobin estimation.

Pregnancy Tests

Doubt about the diagnosis of pregnancy will raise the question whether a pregnancy test should be used. This matter is best approached by considering how uncertainty may arise. If a patient is only two or three weeks beyond the expected date of the next period, a certain clinical diagnosis of pregnancy will not be possible; examination a few weeks later, however, should put the matter beyond doubt, so unless there is a compelling reason to know at once, pregnancy tests need not be employed. In other circumstances, for example when examination is very difficult, or when there has been a little irregular bleeding suggesting threatened abortion, or when the size of the uterus does not correspond with the period of amenorrhoea, tests may be helpful.

If we are to employ pregnancy tests it is necessary to be aware of their value and of their limitations. The biological tests of pregnancy—the Hogben (using the *Xenopus* toad) and the Aschheim-Zondek (using mice) are the most commonly used—depend upon the presence of large amounts of chorionic gonadotrophin in the urine. Sufficiently high levels of gonadotrophin to give a positive test may not be reached until 14 days or so after the first missed period and may not be maintained after about three months. A fairly concentrated urine sample is required and an early morning one is usually employed. If the sample is not an early morning one and if less than fourteen days or more than three months have elapsed since the last menstrual period, a false-

negative result may be obtained. Such false-negative tests are more likely to occur with the Hogben test, which is not so sensitive as the Aschheim-Zondek. Both tests, however, can be used quantitatively to give help in the possible diagnosis of a threatened abortion or hydatidiform mole.

Other tests are available. Tablets of various progesterone-like substances combined with oestrogen may be given to the patient for a few days and then stopped (e.g., "primodos," 1 tablet containing 5 mg. norethisterone acetate and 0.01 mg. ethinyl-oestradiol, on each of two successive days, or "secrolyl," 1 tablet, containing 10 mg. dimethisterone and 0.05 mg. ethinyl-oestradiol, twice daily for two successive days); bleeding from the endometrium so primed will indicate that there is no pregnancy, while a failure to bleed will, in most cases, give a reliable indication that there is. Prostagmin or related compounds ("mestimon") may be used similarly. These tests, while possessing a reasonable degree of accuracy, are not quantitative. Though perhaps valuable in the few cases in which it is important to know at a very early stage whether the patient is pregnant or not, they are less helpful when the clinical uncertainties call for a more detailed report.

Arrangements for Confinement

We must now consider briefly the selection of the most appropriate place for confinement, for only if there is a reasonable expectation that the confinement will be normal is it safe to arrange for it outside hospital. It is unnecessary to set out here an exhaustive list of complicating factors calling for hospital confinement. Were such a list to be compiled, it would have only a limited value, because it would inevitably contain many relative indications which in some circumstances would call for hospital bookings but in others would not. All that will be attempted will be to suggest various features pointing to a greater liability to complication. Our aim must always be to recognize such features, for they imply an increased risk to mother and child, and may well call for hospital booking.

Consultant's Opinion

Certain items in the previous obstetric history make a consultant's opinion advisable. These are: toxæmia of pregnancy or hypertension, five or six previous confinements, a difficult confinement, a delivery by caesarean section or by forceps extraction, a stillbirth or neonatal death, or a third-stage abnormality. In the general medical and surgical history heart disease, diabetes, tuberculosis, various orthopaedic lesions of the spine or lower limbs, and numerous other conditions call for similar management. So far as the present pregnancy is concerned a blood-pressure raised above 140/90 mm. of mercury on the first visit, short stature, a primigravida over 30, and any patient over 40 or with an unusually long interval since the last confinement are circumstances known to be associated with an increased maternal and foetal mortality. A woman who is rhesus-negative need not on that account be confined in hospital unless antibodies are present in the blood. Specimens of blood should therefore be sent for testing on the first visit and again after about 32 weeks of each pregnancy; if antibodies are found, hospital confinement is required.

Several of the instances mentioned above, such as previous forceps extraction, post-partum haemorrhage, and short stature, constitute problems at the delivery only. Hospital booking for 24-48 hours may provide the safest means of dealing with this kind of situation, while at the same time making the best use of available beds. When in such

a case the antenatal care as well as the puerperal care is shared by general practitioner and hospital clinic full co-operation is achieved. Even if the patient is to remain in hospital for ten days after delivery antenatal supervision may still be shared in some instances if she and her family doctor wish it. In such circumstances medical visits should not be duplicated. The patient should carry an antenatal co-operation card to be filled in by both general practitioner and hospital clinic, so that each is aware of the findings at the previous visit.

General Advice

The first visit provides a good opportunity for general instruction in simple health matters. The patient should be advised that her diet is perhaps more important at this time than at any other. She should eat meat, fish, eggs, milk, fruit, and vegetables rather than pastries, cakes, sweets, fried potatoes, and bread in large amounts. Advice may be necessary to deal with vomiting, constipation, or heartburn, all of which will be discussed fully in a later article. Most women will benefit by taking a little extra rest during pregnancy, especially those who are doing a job as well as running a home. This need not preclude a short walk in flat-heeled

shoes each day in the open air whenever the weather permits. Heavy work is not in the patient's interests, and she should be told this. If she requires dental treatment she may as a general rule safely receive it. A patient often has a number of questions to ask if given the opportunity. She may wish to know whether to plan a summer holiday, whether to go on working and for how long, whether intercourse is safe, and so on. There is much to be said for arranging for the patient to attend a series of regular instructional talks on pregnancy and labour. At these many of the points that have been mentioned here are dealt with by the general practitioner, local authority staff, or hospital staff.

Conclusion

During this first visit, whether the patient is in her first pregnancy or not, the aim of the family doctor should be to assess all aspects of her case, make appropriate arrangements for her antenatal care and confinement, and answer any questions she might ask. At all times he will seek to imbue her with a confident attitude to the events that lie ahead.

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TO-DAY'S DRUGS

Drugs for Cardiac Arrhythmias

The regular beat of the heart may be modified in a great variety of ways, both in health and disease. It may be accelerated by exercise, alarm, or fever and slowed by athletic training or syncope. A normal heart may beat irregularly because of rhythmical alterations with the phase of respiration or because of occasional ectopic beats. These alterations do not usually give rise to symptoms; the diagnosis is easy and no treatment is needed.

Some cardiac rhythm changes do give rise to symptoms, either because the rate is too slow or too rapid or because of the severity of the underlying disease. Drugs have a significant role in the treatment of these conditions, but other measures, particularly synchronized electrical countershock,¹ are increasing in importance. As many of the methods used to treat cardiac arrhythmias are potentially lethal, it is essential that treatment should be applied only after an exact electrocardiographic diagnosis and a thorough evaluation of the state of the circulation. It is imperative to ask about previous digitalis therapy, since overdosage can cause a variety of arrhythmias, particularly when the serum potassium is low, as it may be after diuretic therapy. If heart failure is present it should be treated with digitalis and diuretics in the usual way, though digitalis should usually be avoided in ventricular tachycardias.

It is impossible in a short space to summarize the treatment of all cardiac arrhythmias, and so attention will be restricted to the commoner conditions. Auricular fibrillation will be dealt with in a separate article on digitalis therapy.

Digitalis-induced Arrhythmias

Digitalis causes four types of arrhythmia—coupled ventricular ectopic beats, atrial tachycardia with block, nodal tachycardia,

and ventricular tachycardia. The first step in treatment is to stop digitalis and estimate the serum potassium. For the serious digitalis arrhythmias three lines of treatment are then possible. The most useful is to give oral potassium in a dose of 20–100 mEq/day. Potassium effervescent tablets *B.P.C.* (6.5 mEq) should be used; four are given at once, then two every eight hours. Caution is needed if the blood urea is raised. If a digitalis arrhythmia immediately threatens life, an infusion of 4 g. of trisodium *E.D.T.A.* in 250 ml. of 5% dextrose given in 10 to 15 minutes will lower the serum calcium sharply and often relieves the arrhythmia for a time. The infusion causes pain in the vein and there is a risk of tetany.² Recently pronethalol 25 to 100 mg. intravenously has been shown to be effective in digitalis-induced tachycardia.³

Complete Heart Block

Patients with complete heart block usually have a ventricular rate of about 30 per minute. The condition may be congenital and in most adult cases the cause is obscure, though sometimes it follows ischaemic damage to the conducting system or surgical repair of ventricular septal defects. Patients with heart block who are symptom-free usually need no treatment. Periods of abrupt lapses of consciousness (Stokes-Adams attacks) or intractable heart failure are the most important indication for treatment.

Drugs are used to increase excitability of the heart and so increase the spontaneous rate of ventricular contraction. The correct immediate treatment of prolonged or recurrent Stokes-Adams attacks is to give 0.5 mg. of subcutaneous adrenaline or intravenous infusion of 5 to 10 μ g. per minute of isoprenaline. The best long-term oral treatment is with 30 mg. sustained-action isoprenaline tablets given up to six times daily,⁴ but drugs are relatively ineffective. Steroids are sometimes effective in