OBSTETRICS IN GENERAL PRACTICE

General Diseases in Pregnancy—2

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Last week's article in this series concerned disease present before pregnancy which may cause trouble when pregnancy occurs. Our article this week deals with diseases which may arise during pregnancy.

Disorders Arising During Pregnancy

Anaemia

Pregnancy constitutes a dietary efficiency test of nine months' duration. Iron-deficiency and folic-acid-deficiency anaemias are the most common medical disorders encountered in mid-wifery. The haemoglobin concentrations must therefore be determined at the first antenatal visit and at least twice during the third trimester. An estimation at the 32nd week leaves sufficient time for the optimal level of 80% to be achieved before term. Dietary deficiencies are usually multiple, so it is wise to couple iron with folic acid when treating anaemia in pregnancy. Indeed, it is prudent to give supplementary iron and folic acid routinely from the 20th week as the demands of the second half of pregnancy can scarcely be met by diet alone. Suitable oral doses are ferrous sulphate 3 gr. (0.2 g.) or ferrous gluconate 5 gr. (0.32 g.) together with folic acid 5 mg., given twice daily; this makes realistic allowances for forgetfulness. The risk of encountering unrecognized pernicious anaemia before the age of 35 years is negligible, and in older patients infertility appears to be the rule until treatment with cyanocobalamin is established. Epileptic patients receiving anticonvulsant drugs are in special need of folic-acid supplements.

Haemoglobinopathy should be considered whenever anaemia is encountered in an immigrant. Electrophoresis of a sample of blood will expose an abnormal haemoglobin and this will disqualify a patient for domiciliary delivery, since the maternal and perinatal mortality rates are high.

Acute Pyelonephritis

Acute infection of the urinary tract occurs in 1–2% of pregnant women. It is almost confined to the second half of pregnancy, and particularly the puerperium, when it usually follows catheterization during labour. The onset is abrupt, with scalding and rigors. Vomiting can be so prominent as to divert attention to the alimentary tract. It may be so persistent as to require intravenous replacement therapy and the administration of antibiotics by the parenteral route. There is tenderness in the renal angle, especially on the right side. Albuminuria appears but seldom exceeds 100 mg. per 100 ml.

Admission to hospital is advisable for all but mild non-recurrent infections, so that the differential diagnosis from acute appendicitis can be established by microscopic and cultural examination of the urine. Treatment in the home should commence with sulphonamides and an alkaline mixture. Recent awareness of the frequency with which chronic pyelonephritis follows inadequate treatment of acute gestational infections has

led to prolongation of treatment from five days to at least 14 days. Nitrofurantoin is a useful alternative provided the urine is effectively acidified. Streptomycin administered intramuscularly in combination with an alkaline mixture by mouth is the most effective method of treatment.

Patients with persistent or recurrent infections should be referred to hospital three months after delivery. Intravenous pyelography will demonstrate any anatomical aberrations of the urinary tract, and bacterial and leucocyte-excretion tests should reveal any residual infection.

Thrombosis and Embolism

Commendable reductions in the maternal mortality caused by eclampsia, abortion, haemorrhage, and infection have left pulmonary embolism as the main cause of death, especially during the puerperium. In recent years there have been relative and absolute increases in the frequency of fatal embolism during the antenatal period. This problem will not be resolved until a new awareness of the implications of superficial thrombophlebitis and phlebothrombosis of the lower extremities is developed in all members of the maternity services. Women with gross varicosities or the history of previous popliteal or femoral thrombosis are unsuitable for domiciliary delivery. Predisposing factors such as anaemia, traumatic delivery, and excessive blood loss should be eliminated or corrected. A high standard of asepsis must be maintained and infection treated promptly when it occurs. Superficial thrombophlebitis extending above the knee is adequate indication for referral for prophylactic anticoagulant therapy. Deep tenderness in the calf or a positive Homan's sign indicates immediate admission. The significance of the small warning haemorrhage is generally appreciated in relation to placenta praevia, yet the opportunity presented by the small warning embolus which so commonly precedes fatal pulmonary embolism is seldom used to advantage. Coumarin derivatives are interdicted during pregnancy as they traverse the placenta and can cause fatal haemorrhage within the foetus. Heparin is safe during the antenatal and lying-in periods.

Thrombosis of cerebral veins during the puerperium is often fatal, yet it responds to anticoagulant therapy. Severe headache, epileptiform attacks, paraesthesia of the limbs, and loss of motor function are highly suggestive symptoms. Compensatory hypertension develops and is often correlated with chronic attacks, leading to the erroneous diagnosis of late post-partum eclampsia. Eclampsia *never* commences later than one day after delivery.

The common embolic type of obliterative pulmonary hypertension could also be eliminated as a cause of death in parous women by adequate treatment of antenatal and puerperal phlebothrombosis.

Abdominal Pain

Lower abdominal pain is a common complaint during pregnancy. In the first trimester "stretching of the round

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ligaments" is an admirable if improbable diagnosis, as it leads to the correct degree of conservatism. However, one must be vigilant for the signs of abortion, ectopic gestation, and torsion of an ovarian cyst. Vomiting and coughing can lead to rupture of the deep inferior epigastric veins, and the resulting haematoma can mimic a tender intraperitoneal mass. Red degeneration is a frequent complication of uterine fibroids during pregnancy and presents as abdominal pain, vomiting, and pyrexia, together with a tender mass. Admission to hospital is indicated even though treatment is invariably conservative.

Acute Appendicitis

The mortality of acute appendicitis during pregnancy is at least twice that in the non-pregnant state. The heightened risk is due to delay in diagnosis and treatment and interference with localization of the infection. The enlarged uterus elevates the anterior abdominal wall and denies the examining hand the usual degree of access to the appendix, which it also displaces during the second and third trimesters. In addition the uterus denies the omentum access to the appendix. Practitioners should refer their patients to an obstetric unit whenever they suspect acute appendicitis, as differentiation from the common right pyelonephritis can be extremely difficult. Indeed, most hospitals are liberal in their indications for operation during pregnancy.

Rupture of the Uterus

Lower abdominal pain during pregnancy or the puerperium raises the possibility of uterine rupture, especially when there is reason to question the integrity of the uterus because of previous curettage, caesarean section, or myomectomy. The symptoms and signs can be disarmingly modest even in the presence of internal haemorrhage. A similar syndrome can arise from rupture of varicosities of the broad ligament and from intrapelvic haematomas following apparently normal spontaneous deliveries.

Rupture of the Spleen

Traumatic rupture of the spleen and spontaneous rupture of aneurysms of the splenic artery are rare but extremely dangerous conditions. Epigastric and shoulder pain combined with signs of internal haemorrhage require an urgent call for the assistance of the flying squad.

Intestinal Obstruction

Obstruction of the small intestine is an uncommon complication of pregnancy. It is almost exclusive to abdomens bearing subumbilical scars, when it is caused by the enlarging uterus stretching post-operative adhesions. Failure to pass flatus, colicky upper abdominal pain, and vomiting indicate the need for immediate referral to hospital. The diagnosis of small-bowel obstruction can be difficult in the presence of a large uterus, despite radiographic aids.

Strangulated femoral and inguinal herniae are excessively rare, as the uterus always lies in contact with the anterior abdominal wall. Fulminating pre-eclampsia can mimic small-bowel obstruction by presenting with vomiting and severe epigastric pain due to haemorrhage within the liver.

Volvulus of the sigmoid or caecum has a predilection for the latter half of pregnancy and the puerperium. Tympanitic distension and inability to pass flatus are strongly suggestive of this condition. Vomiting is not prominent and this assists in excluding pyelitis, which can also cause meteorism. Prolonged labour is usually associated with tympanites over the descending colon, and this can persist for several hours after delivery. Early surgical treatment of volvulus is essential and patients should be referred as soon as there is any suspicion of large-bowel obstruction.

Peptic Ulcer

Women suffering from chronic peptic ulceration usually enjoy symptomatic relief during pregnancy, as there is a demonstrable reduction in the secretion of hydrochloric acid. Haemorrhage and perforation are almost confined to labour and the puerperium. Lactation is accompanied by increased acid secretion, and patients with the history of previous complications should be advised to forgo breast-feeding. Pregnancy is not curative of chronic peptic lesions and does not confer immunity from acute ulceration.

Jaundice

Jaundice is an uncommon but sinister complication of pregnancy, and admission to an obstetric unit is obligatory. Hepatic necrosis peculiar to pregnancy is rarely encountered but carries a high mortality. By contrast chlorpromazine jaundice is harmless and clears rapidly, but this drug should not be used as an anti-emetic during pregnancy as it can lead to unnecessary anxiety and investigation.

Virus Infections

Rubella

A well-controlled investigation in England, Wales, and Scotland showed that maternal rubella during the first trimester is associated with 13% of major congenital abnormalities in their babies, in contrast to 1.5% in the control group. Australian workers have recorded that 10% of pregnant women who believed themselves to be susceptible and who were in contact with the infection developed the disease. This was reduced to 1% by administering gamma globulin within five days of exposure. Rubella during the second and third trimesters does not cause foetal defects.

Pregnant women should be warned to avoid exposure to infection during the first trimester, but should be given the advantage of gamma globulin when this does occur. Gamma globulin is usually obtainable from the local authority. When rubella is contracted during the first trimester and the patient is fearful of bearing an abnormal child she should be referred to a consultant for consideration of termination.

Measles

Maternal measles is occasionally productive of foetal abnormality and there is a slight increase in the number of infantile deaths. There is no correlation between the time when the infection occurs and interference with organogenesis.

Varicella, Mumps, and Influenza

These infections are not obviously associated with an increased incidence of congenital malformations. There is some evidence to suggest that influenza is productive of central nervous system deformities. Varicella may cause congenital chicken-pox which can result in neonatal death.

Smallpox

Variola can traverse the placenta and cause abortion or congenital smallpox which may be fatal after birth. Unfortunately the vaccinia virus can cause abortion and intrauterine death of the foetus. For this reason vaccination and re-vaccination should be avoided during pregnancy except in areas where smallpox is endemic.

Bornholm Disease

The Coxsackie virus crosses the placenta and can cause neonatal death from myocarditis and meningo-encephalitis. It is

prudent to refer patients who develop this infection during the third trimester to an obstetric unit for delivery.

Poliomyelitis

With mass immunization this infection has become rare. Pregnant women suspected by their practitioners of having this infection should be referred direct to an isolation hospital irrespective of the stage of pregnancy.

There is no contraindication to immunization or re-immunization during pregnancy. Indeed it is a desirable procedure as pregnant women are unusually susceptible to poliomyelitis.

Supine Hypotensive Syndrome

Although the supine position relieves syncope in non-pregnant women, it can cause fainting during the third trimester. The syndrome is characteristically observed during a routine antenatal examination, especially if the practitioner is called away and the patient left in the dorsal position for several minutes. The symptoms are typically dyspnoea, pallor, sweating, retching, and a desire to sit up. Hypotension is invariably present. Recovery is prompt when the woman is assisted to sit up or permitted to turn into a lateral position. The inferior vena cava is virtually occluded in the supine position in all women near term, and individual susceptibility to the hypotensive syndrome varies with the ability of the para-vertebral plexus to maintain an adequate venous return from the lower half of the body.

Experimental occlusion of the inferior vena cava causes abruptio placentae in pregnant dogs, but the supine hypotensive syndrome appears to be harmless in the human. It is, however, disturbing for both the patient and the attendants.

Epistaxis and Gingivitis

The mucous membrane of the nasal cavities is hyperaemic throughout pregnancy. Parous women may recognize the occurrence of conception by the return of persistent nasal obstruction. Pregnant women are in consequence unusually susceptible to epistaxis. Bleeding from an anterior site can usually be controlled by compression of the nares or by the application of a swab soaked in adrenaline. Admission is indicated if these measures are unsuccessful, since nasal packing, cauterization, and blood transfusion are required on occasions.

TO-DAY'S DRUGS

Anthelmintics—2

Our "To-day's Drugs" article last week dealt with the general features of parasitic worm infestation and the worms encountered in this country which were of indigenous origin. This week we discuss briefly the worms of exotic origin which may on occasion be seen by doctors practising in the British Isles.

Worms of Exotic Origin

There are many of these, but the more commonly encountered include the following.

Nematoda

Ancylostoma duodenale and *Necator americanus*

Hookworm infestations, if not abnormally heavy, in otherwise healthy persons cause little or no debility or disorder.

The interdental papillae exhibit a similar hyperaemia and varying degrees of hyperplasia. Bleeding on brushing the teeth and unsightliness are common complaints. Reassurance of complete regression during the puerperium is all that is necessary except in extreme cases, when reference to a dental practitioner may be prudent. However, excision during pregnancy is seldom necessary or desirable.

Obstetrical Palsy

Following vaginal delivery the patient may complain of paraesthesia and weakness in one leg. Foot drop will often be present. The condition is due to compression of the lumbo-sacral trunk between the ala of the sacrum and the foetal head or the obstetric forceps. Examination will reveal weakness of the muscles supplied by the sciatic nerve, with some sensory loss over the lateral point of the leg. The leg should be splinted to prevent foot drop and the patient referred to an orthopaedic unit for physiotherapy. The disability usually clears within a few weeks.

Other patients will complain of an exacerbation of previous low backache radiating into the dorsum of one or both thighs and lateral aspect of the legs. This lesion is due to prolapse of an intervertebral disk. In severe cases retention of urine may result from involvement of the cauda equina. Straight-leg raising will be limited and there may be weakness of the quadriceps muscle. The patient should be transferred to an orthopaedic ward for rest in a plaster cast, traction, or excision of the offending disk. This is a more serious lesion than trauma to the lumbo-sacral trunk and it is prudent to seek hospital booking in future pregnancies.

Herpes Gestationis

This rare disorder is the only skin disease peculiar to pregnancy and possibly represents an allergic reaction to the placental hormones. It usually commences during the latter half of pregnancy as a severe generalized pruritus. Erythematous patches then appear in the region of the umbilicus followed by bullae which soon involve the entire trunk and limbs. The patient should be referred to an obstetric unit without delay. Secondary infection of the abdominal wall can present a serious problem at term if abdominal delivery becomes necessary for an unrelated obstetrical condition. The bullae clear spontaneously during the puerperium, but as the condition may recur in subsequent pregnancies the patient should be placed thereafter under the care of a maternity unit.

Heavy intestinal infestations, very rare in repatriates to this country, may cause "hookworm disease" with severe anaemia.

"Alcopar" (bephenium hydroxynaphthoate) in a single dose for an adult of 5 g. (2.5 g. of the base), as given for *Ascaris lumbricoides* infection with which the hookworm infections are commonly associated, is a safe, cheap, and convenient specific. Any anaemia attributable to the infection is readily corrected by oral treatment with ferrous sulphate; if anaemia is marked, it is well to modify this by oral treatment with iron before dealing with the worm infection specifically.

Strongyloides stercoralis

Though usually of little or no pathological significance, annoying recurring "creeping eruptions," or serpigenous urticaria, sometimes attend intestinal infection with this parasite. Serious illness in children has on rare occasions been associated