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Elective (SSC5C) write-up

ANTE-NATAL CARE

1. **What are the common problems during pregnancy in this population? How do they compare to the UK in general?**

In this North East London population, the common problems during pregnancy are pre-eclampsia, obesity and cardiac disease. According to the Centre for Maternal and Child Enquiries (CMACE), these are also common problems in the UK. Between 2006-2008, sepsis and pre-eclampsia (and eclampsia) were the most common causes of maternal death directly related to pregnancy. Cardiac disease was the most common cause of maternal death indirectly related to pregnancy. In over half of the cases of maternal death, the women were overweight, obese or extremely obese[1].

Pre-eclampsia is a hypertension-related disease which occurs during pregnancy. It is characterised by hypertension and proteinuria (≥300 mg/24h) and is often associated with oedema. It is one of the main global causes of maternal and fetal morbidity and mortality. Pregnant women should have their blood pressure measured and their urine tested at regular antenatal appointments, so that high blood pressure can be treated (and pre-eclampsia detected) as early as possible[2].

Obesity is described as a Body Mass Index (BMI) ≥30. It is a risk factor for maternal death as well as fetal congenital anomaly, miscarriage, gestational diabetes, pre-eclampsia, thromboembolism, stillbirth and neonatal death. It is more difficult to adequately monitor pregnancies of women who are obese. They may be less able to feel fetal movements and therefore less aware if they become reduced. Ultrasound tests to detect abnormalities and fetal monitoring may also be more difficult. Obese women may need serial growth scans and an anaesthetic referral. Obesity increases the likelihood of Caesarean deliveries, admissions due to complications and longer stays in hospital[3].

According to guidelines, all pregnant women should have their BMI calculated at booking and those who are obese should be made aware of the risks. They should also be told the importance of healthy eating and exercise. However, more can be done to educate pregnant women (and those planning a pregnancy) about exercising during pregnancy (for example, types of exercise and duration)[4].

As mentioned earlier, cardiac disease is another common problem in pregnancy in this population and is a leading cause of maternal mortality in the UK. There has been an apparent decrease in deaths from congenital heart disease and an increase in deaths from acquired heart disease. The rate of mortality from acquired heart disease has increased from 4.7 (per million births) in 1982-4 to 20.8 (per million births) in 2003-5. Acquired heart disease includes ischaemic heart disease (and myocardial infarction), peripartum cardiomyopathy and rheumatic heart disease[5].

Pregnant women with (congenital or acquired) cardiac disease should be risk-assessed as early as possible so that their management can be tailored to their risk.

2. **How are ante-natal services organised and delivered in England? How does it compare to the rest of Europe?**

In an uncomplicated pregnancy, most care is provided by a midwife and a GP. There should be continuity of care, where possible. For a nulliparous woman, antenatal visits are usually at <12 weeks, then 16, 25, 28, 31, 34, 36, 38, 40 and 41. Women are encouraged to book with their community midwife by the 12th week of their pregnancy. A full history should taken, as well as examinations to check the heart, lungs, abdomen and weight (for BMI). Women should be risk-assessed and referred, according to their risk[6].

Women should be started on folic acid supplements at booking (if not taking it already), advised about Vitamin D supplementation, diet, food-acquired infection, exercise and changes to their lifestyle (e.g. stopping smoking/drugs and reducing alcohol consumption). They should also be advised about antenatal screening, such as Down's screening, haemoglobinopathy screening and the anomaly scan[6].

Booking blood tests should also be done, to check the mother's blood group, haemoglobin, antibody status, immunity to Rubella and viral serology. Haemoglobin electrophoresis may be offered if there is risk. A combined Down's screening test can be done between 10 weeks 3 days – 13 weeks 6 days[6].

A dating scan at 10 weeks–14 weeks should be offered to check the pregnancy's viability and date it. A further scan at 18-20 weeks should be offered to detect anomalies[6].

By 36 weeks, women should be given more advice about breast-feeding (e.g. technique), coping with pain in labour and recognition of labour. The birth plan should also be discussed, as well as Vitamin K prophylaxis, newborn screening tests and post-natal depression. At 38 weeks, women should be educated about "options for management of prolonged pregnancy"[6].

At each antenatal visit, the urine should be tested and the blood pressure measured. The fundal height should also be measured. At 36 weeks, the lie and presentation can be checked. Hb and Rh antibodies are checked at 28 and 34 weeks and anti-D is given if required[7].

It is difficult to fully compare the antenatal services of England to other countries in Europe, as only limited information is available. According to a review done in 2005 (which for the first time reports antenatal care for member states of the EU), 20 of the 25 member countries of the European Union have national guidelines for antenatal care. Of the 47 tests reported, 23 were done as part of routine antenatal care by more than half of the countries[8].

These 23 tests, which are evidence-based, include; blood group, blood pressure, Rhesus factor, maternal weight, urinalysis, Hb, syphilis, fundal height, Hepatitis B, body mass index, full physical examination and vaginal examination. All of these are available in England on the NHS and are carried out as part of routine antenatal care. Tests often carried out in England which are not offered in 50% of countries in the European Union include; oral glucose tolerance test, cervical smear, transvaginal ultrasound, doppler ultrasound, Hepatitis C status and haemoglobinopathy screening. Based on the review, a minimum guideline is recommended for the European Union. Currently, England provides more comprehensive antenatal care (as far tests go) than half of the countries in the EU[8].

3. Describe a condition which you find interesting and explain how it may be managed.

Pre-eclampsia is a disorder which occurs after the 20th week of pregnancy, characterised by hypertension and protein in the urine. It is a leading cause of maternal and fetal death and morbidity worldwide. Symptoms include headache, visual disturbances, abdominal pain, vomiting and swelling of the face, feet or hands[9].

Pre-eclampsia is associated with placental insufficiency and intrauterine growth restriction. This is due to abnormal invasion of trophoblast cells, which leads to "maladaptation of maternal spiral arterioles" which supply blood to the fetus. Hypertension occurs as a result of vasoconstriction and proteinuria occurs as a result of capillary leak. Both are due to an inflammatory response of the blood vessels. (The inflammatory response can also cause eclampsia and HELLP syndrome. Both are due to

oedema and dysregulation of blood flow, in the brain and liver respectively. Eclampsia is characterised by seizures[10].)

Women with pre-eclampsia should be offered a package of care including admission, treatment (i.e. labetalol for hypertension), blood pressure monitoring (≥4 times per day depending on severity of the pre-eclampsia), blood tests (2-3 times per week depending on severity, to assess renal and liver function) and urine testing for proteinuria[9].

The baby should not be delivered before 34 weeks, unless there is severe hypertension which is unresponsive to treatment or if "maternal or fetal indices (biochemical, haematological and clinical)" reach thresholds documented by consultant obstetricians. After 34 weeks, delivery can be offered, depending on the severity of pre-eclampsia, blood pressure control and risk factors. Birth is recommended within 24-48 hours after 37 weeks to women who have pre-eclampsia with mild or moderate hypertension. After delivery, blood pressure, biochemical and haematological values should be monitored and care given depending on the patient's case[9].

Women at high risk of developing pre-eclampsia should take 75 mg aspirin daily between 12 weeks gestation and delivery. Women at high risk are women who have had previous "hypertensive disease during a previous pregnancy", chronic kidney disease, autoimmune disease, diabetes or chronic hypertension. Women with at least two moderate risk factors should also take 75 mg aspirin daily between 12 weeks gestation and delivery. Moderate risk factors are: primigravida, age ≥40 years old, more than 10 years between pregnancies, BMI≥35, family history of pre-eclampsia and multiple pregnancy[9].

4. How has my experience affected my choice in future specialty? How do I feel I should develop personally and professionally?

After my five-week elective at Whipps Cross Hospital, I still feel that I would like to pursue a career in Obstetrics and Gynaecology. My 4th year Obstetrics and Gynaecology placement at the Royal London Hospital was disappointing, despite my finding the subject matter interesting so I was apprehensive at first. However, I have had a more positive experience on my elective; more practice at dealing with patients in clinic and on wards, more opportunity to observe surgery, more general experience which has helped me prepare for FY1 and more opportunity to learn, as doctors were more willing to teach and support me. I have also had opportunity to speak with doctors and find out their feelings about their work, which has helped me in my decision. My only concern is that Obstetrics and Gynaecology seems like an intense specialty and I am not completely sure I can handle the job.

In terms of personal and professional development, I feel I should work on being more confident in my abilities. I did not feel very confident at the start of my elective, as I had not studied Obstetrics and Gynaecology since 4th year and felt unable to do things that were asked of me. However, as I tried to step out of my "comfort zone" and try to do these things (with supervision), I learnt more and felt more confident about myself afterwards. I should be more willing to ask for supervision and support, as it will help me to learn and improve. I should not become complacent with my knowledge and skills. I feel I should also work on being more assertive so I can deal with difficult patients (and staff) better. I have recognised that I often let others take advantage of me and I want to prevent that in future.

References

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