

Maternal Medicine Symposium

A symposium in association with the Royal College of Obstetricians and Gynaecologists held on 2 June 2011 at the Royal College of Physicians of Edinburgh and part of the James Young Simpson Bicentenary Celebrations (1–5 June 2011)

HIV IN PREGNANCY – MINIMISING ADVERSE EFFECTS ON MOTHERS AND BABIES

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In the UK, there are more than 1,200 deliveries per year to women with HIV and the overall transmission rate to infants is now less than 1%. Voluntary reporting by obstetric and paediatric units to the UK National Study of HIV in Pregnancy and Childhood (NSHPC) provides excellent surveillance data on the epidemiology and management of HIV in pregnancy and the newborn.¹

Almost all women diagnosed with HIV in pregnancy take highly active antiretroviral therapy (HAART) – over 50% are already on HAART at conception. Prospectively collected data on HAART exposure from the iAntiretroviral Pregnancy Registry (www.apregistry.com) and the NSHPC has not so far demonstrated any evidence of increased congenital abnormalities in children exposed in any trimester. This is reassuring, but remains under close review. However, HAART in pregnancy increases the risk of premature delivery which may increase morbidity in the infant.

There is no advantage of elective pre-labour caesarean section (ELCS) over vaginal delivery in the reduction of transmission for women on HAART with fully suppressed HIV. In the pre-HAART era, rupture of membranes (ROM) increased the risk of HIV transmission and supported the use of ELCS. As a result, in recent years the increase in vaginal deliveries has been associated with more emergency caesarean sections due to concerns about leaving women labouring with ROM. Reassuringly, emerging UK data on length of time of ROM in women on HAART suggests this does not affect transmission risk, and this will hopefully lead to a reduction in emergency caesarean sections.¹

Recent randomised breast feeding trials of mothers on HAART in Africa have shown postpartum HIV transmission rates of 1–2%. In the UK, the transmission rate is 0.1% for women on HAART who formula feed; this puts the infant at no risk of post partum HIV and currently remains the optimum feeding regime for the UK.²

References

- 1 National Study of HIV in Pregnancy and Childhood (NSHPC). Data available at <http://www.nshpc.ucl.ac.uk>
- 2 British HIV Association and Children's HIV Association. *Position Statement on Infant Feeding in the UK*. London; BHIVA/CHIVA; 2010. Available from <http://www.chiva.org.uk/sites/default/files/InfantFeeding10.pdf>

CRITICAL CARE MANAGEMENT OF THE ACUTELY ILL PREGNANT WOMAN

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Intensive care should start as soon as it is needed and does not need to wait for admission to an intensive care unit

— Tom Clutton-Brock 2004

An increasing proportion of level 2 (high dependency) critical care is being provided in obstetric units. Recently a working party has been convened to define the purpose and scope of such care and to establish standards for training and competencies of staff delivering such care.

The specific challenges of maternity critical care include:

- A generally healthy population in whom the physiologic changes of pregnancy may mask onset of serious illness.
- Presence of a foetus in the antenatal population.
- A wide range of conditions (trauma, surgical as well as medical and obstetric conditions).

- A lack of resources for critical care in maternity.
- Training: one of the findings of the latest Confidential Enquiry into Maternal and Child Health report was that the initial failure of clinical staff to recognise and act upon the signs and symptoms of life-threatening conditions was a major cause of substandard care.

Further reading

- 1 Intensive Care National Audit and Research Centre. *Female admissions (aged 16–50 years) to adult, general critical care units in England, Wales and Northern Ireland, reported as “currently pregnant” or “recently pregnant”*. London: ICNARC; 2009. Available from http://www.rcoa.ac.uk/docs/icnarc_obs_report.pdf
- 2 Wheatly S. Maternity critical care: what's in a name? *Int J Obstet Anesth* 2010; 19:353–5. Epub Sep 15 2010.

TYPE I DIABETES IN PREGNANCY COMPLICATED BY HINI PNEUMONIA, TYPE II RESPIRATORY FAILURE

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This is a case report of Mrs. MH, a 37-year-old para 1 with previous caesarean section, who was booked in the combined Obstetric and Diabetic clinic at five weeks.

She was a known type I diabetic from 6 years of age. Her pregnancy was complicated with episodes of severe hyperemesis and unrecordable blood glucose levels from ten weeks requiring obstetric high dependency unit admission. She was on insulin sliding scale and anti-emetics and was subsequently commenced on oral prednisolone. Her foetal monitoring always remained satisfactory.

At 26 weeks she was re-admitted with HINI pneumonia and was commenced on oseltamivir. She gradually deteriorated and was transferred to the intensive care unit as she developed type II respiratory failure and multiple organ failure. She was initially intubated and ventilated and was subsequently transferred to high frequency oscillator. Due to ongoing hypoxic episodes she underwent an emergency caesarean section at 29 weeks. Following her section her status gradually improved well enough for a tracheostomy. Her main problems then were that of agitation, delirium, gastroparesis, post-hypercapnic alkalosis, and pyrexia from swine flu. With supportive therapy she was de-cannulated from her tracheostomy. She also started to mobilise with physiotherapy and was gradually weaned off her nasogastric feeds.

SICKLE CELL DISEASE IN PREGNANCY

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Introduction

Sickle cell disease is associated with significant maternal and foetal morbidity and mortality. We present a case of sickle cell disease in pregnancy complicated by preeclampsia and postpartum acute chest syndrome managed effectively by the multidisciplinary team with a favourable maternal outcome.

Case Presentation

A 31-year-old woman (gravida 3, para 2+0) of Nigerian origin, known to suffer from sickle cell disease (HbSS) booked into her third pregnancy at 11 weeks. Her past obstetric history included a still birth of a hydropic foetus at 24 weeks in her first pregnancy and an emergency caesarean at 28 weeks for pre-eclampsia in the second pregnancy. Haemoglobin (Hb) at booking was 78 g/l. She was closely monitored at the combined Obstetric/Haematology clinic.

She developed pre-eclampsia at 27 + 5 weeks. She was transfused two units of phenotypically matched packed cells in view of her poor obstetric history and a fall in the Hb to 66 g/l. Due to worsening pre-eclampsia, uncontrolled with labetalol and deranged liver and renal function, an emergency caesarean section was done at 30 + 5 weeks. On the first post-operative day she developed pyrexia, right-sided chest pain, dyspnoea, hypoxia and dropped her Hb to 57 g/l. Chest X-ray showed bibasilar atelectasis. She was treated with humidified oxygen, antibiotics, analgesia, salbutamol nebulisation and physiotherapy under intensive care. She was transfused a further two units of packed cells. Serial chest X-rays, renal and liver functions, full blood count and arterial blood gas analysis were done to assess progress. Her clinical condition improved and she was discharged to the ward on the sixth post-operative day.

Conclusion

A multidisciplinary approach to patients with sickle cell disease improves the clinical outcome. Acute chest syndrome is a common complication of the sickling disorders. The clinical presentation often mimics pulmonary embolism and pneumonia. Awareness of the condition is necessary to allow heightened vigilance around detection and aggressive treatment to prevent significant morbidity and mortality in patients with sickle cell disease.

GROUP A STREPTOCOCCAL SEPTICAEMIA: A POST-PARTUM CASE REPORT

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Background

During the 2006–2008 triennium, sepsis was the leading cause of direct maternal deaths and was frequently triggered by group A streptococcus bacteraemia (GAS). Group A streptococcus bacteraemia can present anywhere along the spectrum between asymptomatic infection to puerperal sepsis and toxic shock syndrome.

Case

A healthy, 35-year-old multigravida had low-risk antenatal care and a spontaneous vaginal delivery with 1,200 ml haemorrhage at term. She rapidly developed tachycardia, hypotension, pyrexia, coagulopathy and acute respiratory distress syndrome 36 hours post-partum. She satisfied diagnostic criteria for streptococcal toxic shock syndrome and microbiology studies confirmed GAS bacteraemia. With critical care monitoring, intravenous antibiotics, fluids and oxygen, she made a full recovery.

Discussion

This case illustrates how a healthy woman with an uneventful pregnancy and labour can become rapidly unwell with GAS. Knowledge of risk factors, such as an increased hibernal morbidity and mortality, increased prevalence amongst black or mixed ethnicity, contact with infants and anaemia aids early identification of serious cases. Our patient had all these risk factors.

Conclusion

Group A streptococcus bacteraemia toxic shock syndrome is uncommon but life-threatening. Fast, aggressive treatment should be commenced when faced with the rapidly deteriorating, septic patient.

PREGNANCY ASSOCIATED WITH HEREDITARY HAEMORRHAGIC TELANGIECTASIA

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A 38-year-old primigravida, booked in to Stirling Royal Infirmary, in first trimester, known to have hereditary haemorrhagic telangiectasia (HHT) (also known as Osler-Weber-Rendu Syndrome). She was investigated in Leicester, where the diagnosis was confirmed as she had three out of four features (positive family history in first degree relative, recurrent epistaxis and multiple cutaneous or mucosal telangietasia). She was investigated in the past for pulmonary hypertension (HTN) and had normal chest X-ray, electrocardiogram and echocardiography. She did not have any imaging to exclude arteriovenous malformations (AVM) as the diagnosis was made clinically.

Family history showed that her sister, aged 30 years, had HHT, and her mother died at 56 years of age secondary to complications of pulmonary HTN related to HHT. Her maternal grandmother had a cerebrovascular accident and died at 80 years, however maternal grand-aunts had early deaths related to pulmonary HTN.

Booking body mass index was 22 and was a non-smoker. She was asymptomatic at booking and on examination showed few mucosal telangiectasia, but no features suggestive of pulmonary HTN. Her booking, anomaly and growth scans were unremarkable.

The pregnancy was uneventful. Investigations in pregnancy excluded pulmonary HTN. She had spiral computed tomography of chest and magnetic resonance imaging (MRI) of lumbar spine which excluded AVM. However, small spinal AVM could not be excluded without contrast. She declined cerebral MRI to exclude intracranial AVM. She opted to have an elective caesarean section under general anaesthesia after full counselling of the two modes of delivery, associated risks and advantages. She had an uncomplicated caesarean section and delivered a live female infant at 38+wks weighing 2.5kgs.