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Listeria monocytogenes: Diagnosis and Management

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INTRODUCTION:

Listeria monocytogenes (LM) is the only species that infects humans (1). Unfortunately, its occurrence is much more prevalent in the pregnant population (1). Below an antenatal presentation with febrile LM gastroenteritis is described to guide diagnosis and management.

CASE:

A 27-year-old G1P0 of South Asian decent was brought in by ambulance to a tertiary birthing unit at 36+5 weeks with decreased foetal movements, maternal fever to 39, and thick meconium liquor.

She reported to have ruptured her membranes 3 hours prior to presentation with liquor initially clear then turned a dark green. She noted tightenings since, and reported 1 episode of loose stool. Four weeks prior she had presented with gastroenteritis and was discharged post fluid resuscitation.

Antenatally she was well with normal bloods, GBS negative, and a low-risk nuchal translucency. She had been reviewed three times in her pregnancy for decreased foetal movements with the last formal ultrasound (US) performed at 30+2 weeks showing a 1782g foetus, with normal AFI, and dopplers.

Bloods on admission demonstrated a WCC 24.2, CRP 38.3, and a maternal lactate of 0.8. Admission CTG showed foetal tachycardia to 170, variability of 4, and repetitive shallow decelerations which did not improve with stat fluid resuscitation. Blood cultures (BC) were taken, and stat doses of cephazolin and metronidazole were administered. The patient was taken for a caesarean section given ongoing CTG concerns and a live female infant weighing 2535g with APGARs of 7,9 was delivered.

In the postpartum period, BCs and placental cultures were found positive for LM. The infectious diseases team was consulted and advised to treat with IV ampicillin 2g 6hrly for a total of 2 weeks. The baby was admitted to NICU and was discharged day 7 post-delivery following IV antibiotic therapy for positive LM BC, initial respiratory support with CPAP, and parenteral feeding.

DISCUSSION:

- *Epidemiology and pathophysiology*

LM is rare in the general populous, however it affects 12 in 100 000 pregnancies with those in the third trimester being most effected (accounting for one third of reported cases) (1,2). LM is caused by a gram-positive rod with motility best at room temperature (1). It is transmitted through the faecal-oral route and has a large latency period reportedly between 24hrs and 70 days (1,2).

- *Diagnosis*

In the pregnant population it presents as bacteraemia without CNS invasion, with fever, flu-like symptoms, and diarrhoea (3). Maternal infections are rarely severe, whilst foetal and neonatal infections are life threatening with a mortality rate of 20-30% (1,2,3). Granulomatosis infantiseptica is a pathognomonic finding in neonates however the most common presentation is pneumonia, sepsis, and meningitis (3). LM is diagnosed by cultures of blood, amniotic fluid, placenta, or spinal fluid (1,3).

- *Management*

First line therapy for bacteriaemia in pregnancy is 14 days of IV ampicillin (1). However, prevention remains the best strategy given high foetal and neonatal morbidity and mortality with routine advise being to avoid soft cheeses, deli meats, and raw meat (1). Mode and urgency of delivery is based on maternal or foetal compromise (1).

References:

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