

South Australian Paediatric Clinical Guidelines

Listeria in pregnancy

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The 'Management of Perinatal Infections' guideline for Listeria in pregnancy by the Australasian Society for Infectious Diseases 2002, emendations 2006 has been used to inform this practice guideline.

Listeria

- > Listeriosis is an uncommon foodborne illness caused by a widespread bacterium called *Listeria monocytogenes*¹
- > *Listeria monocytogenes* can be easily isolated from soil, dust, water, processed foods, raw meat, and the faeces of animals and humans²
- > *Listeria* can survive in temperatures as low as 0.5° Celsius (e.g. can grow in the refrigerator), but is easily destroyed by cooking²

Clinical features

- > Usually asymptomatic
- > May present as diarrhoea or influenza-like illness
- > Or may present as a febrile illness associated with preterm labour and meconium staining of the amniotic fluid³

Route of transmission

- > Ingestion of *contaminated* foodstuffs, particularly unpasteurized dairy products, soft cheeses, delicatessen meats, pre-prepared cook-chill meals, pâté and raw vegetables³
- > *Listeria* may take up to 70 days to develop (usually around three weeks) following ingestion of food infected with listeria

Infection precautions

- > Standard precautions for further information see URL: <http://www.health.sa.gov.au/PPG/Default.aspx?PageContentID=2023&tabid=90>

Literature review

- > Listeria infection during pregnancy results in a small number of infected fetuses
- > In early pregnancy, fetal infection may result in miscarriage
- > Maternal listeriosis in the second or third trimester results in a mortality of 40-50 % for the fetus⁴
- > In later pregnancy fetal septicaemia may result in damage to multiple organs and stillbirth or neonatal death³
- > The mortality rate varies from 3 – 50 % in live-born neonates infected with listeria⁵
- > Perinatal listeria within 7 days of birth is often associated with prematurity and fulminant disease. Late onset disease (7 days to six weeks) often presents with meningitis

Preventative measures

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Avoid high risk foods e.g.

- > Unpasteurized milk or food made from raw milk
- > Pâté dips and soft cheeses (feta, brie, camembert, blue veined cheeses unless they are an ingredient in a fully cooked dish)
- > Chilled precooked seafood's
- > Precooked meats and meat products which are eaten without further cooking or heating
- > Uncooked or smoked seafood (unless an ingredient in a fully cooked meal)
- > Pre-prepared salads and coleslaws

Use safe food handling practices

- > Thoroughly cook raw food from animal sources
- > Separate uncooked meat from vegetables, cooked foods and ready-to-eat foods
- > Eat freshly cooked foods. Avoid eating dips in which raw vegetables may have previously been dipped
- > Thoroughly wash raw fruit and vegetables
- > Wash hands, cutting boards and knives after contact with uncooked foods
- > Reheat left-over or ready-to-eat food until steaming hot

Maternal diagnosis / treatment

- > Obtain dietary history from pregnant women with febrile, flu-like illness, myalgia, headache or diarrhoea
- > Serology is not a useful tool for diagnosing listeria
- > Consider blood cultures. Also consider gram stain and cultures of the genital tract

Drug treatment

- > No randomised controlled trials have been performed to establish optimal treatment regimens for listeriosis. Treatment regimens have been based on the recommendations of the Australasian Society for Infectious Diseases⁴

Mild infection

- > Oral amoxicillin / ampicillin (2-3 g / day)

Severe infection

- > Intravenous amoxicillin / ampicillin (4-6 g / day)
- > Intravenous gentamicin for 14 days
- > If allergic to penicillin, consider trimethoprim 160 mg / sulphamethoxazole 800 mg (oral or intravenous depending on severity of condition)

Neonatal diagnosis / treatment

- > Neonatal listerial infection can cause pneumonia, sepsis, or meningitis²
- > Although presentation can be variable, most neonates present with respiratory distress, fever, rash, jaundice, or lethargy²

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Unwell neonate

Suspicious clinical findings include:

- > Placental, cord or post pharyngeal granulomas
- > Multiple small skin granulomas, papular or pustular skin rash
- > Meconium stained liquor < 34 weeks gestation
- > Purulent conjunctivitis

Septic workup

Following suspected or proven maternal listeriosis, consider:

- > Blood cultures, cerebrospinal fluid
- > Superficial cultures with gram stain
- > Culture placenta
- > Chest x-ray, urine culture
- > Complete blood count

Drug treatment

- > Amoxicillin / ampicillin (50 mg / kg every 12 hours)
- > Gentamicin (2.5 mg / kg every 12 hours)
- > Consider trimethoprim / sulphamethoxazole if no response to standard therapy

Well neonate

- > Cease antibiotics after 48 hours

Culture positive or unwell at diagnosis

- > Cerebrospinal fluid positive – continue amoxicillin / ampicillin and gentamicin for 21 days
- > Cerebrospinal fluid negative – continue amoxicillin / ampicillin and gentamicin for 14 days

References

1. Gilbert GL. Infections in pregnant women. MJA 2002; 176: 229-236.
2. Janakiraman V. Listeriosis in Pregnancy: Diagnosis, Treatment, and Prevention. Rev Obstet Gynecol. 2008; 1:179-185
3. Langford KS. Infectious disease and pregnancy. Current Obstet Gynaecol 2002; 12: 125-30.

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4. Palasanthiran P, Starr M, Jones C, editors. Management of perinatal infections. Sydney: Australasian Society for Infectious Diseases (ASID); 2002, emendations 2006.
5. Bortolussi R, Schlech WF. Listeriosis. In Remington JS, Klein JO, editors. Infectious diseases of the fetus and newborn infant. 5th ed. Philadelphia: WB Saunders; 2001

Useful web sites

Organization of teratology information specialists (OTIS) – Information on Listeriosis and pregnancy. Available from URL:

<http://www.otispregnancy.org/files/listeriosis.pdf>

Information leaflet from Australian New Zealand food standards on Listeria

http://www.foodstandards.gov.au/_srcfiles/Listeria.pdf

SA Health You've got what – Listeriosis. Available from URL:

<http://www.dh.sa.gov.au/pehs/ygw/listeriosis-pehs-sahealth-2009.pdf>

Child and Youth Health (CYH). Listeriosis. Available from URL:

<http://www.cyh.com/HealthTopics/HealthTopicDetails.aspx?p=114&np=303&id=1777>

Abbreviations

°	Degree(s)
g	Gram(s)
kg	Kilogram(s)
mg	Milligram(s)
%	Percent

Version control and change history

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Version	Date from	Date to	Amendment
1.0	05 April 04	08 Jan 13	Original version
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