

## **I.6 - Proposal to extend the indications for gentamicin on the WHO Model List of Essential Medicines for Children to include acute bacterial meningitis in neonates**

MSF supports the addition of the new indication of acute bacterial meningitis in neonates to the existing indications listed for gentamicin in the core list in section 6.2.1 Access group antibiotics, in the WHO Model List of Essential Medicines for Children (EMLc).

Gentamicin is included since 1977 in the WHO Model List of Essential Medicines (EML) and since 2017, gentamicin is included in the core list in section 6.2.1 Access group antibiotics of both the EMLs, as first choice for community-acquired pneumonia (severe, children), complicated acute malnutrition (children), sepsis in neonates and children and as second choice for surgical prophylaxis.

In the electronic EML, the paediatric indications listed for gentamicin as first choice are sepsis without septic shock (co-prescribed with amoxicillin or ampicillin or benzylpenicillin), community-acquired pneumonia (severe, co-prescribed with amoxicillin or ampicillin or benzylpenicillin), acute malnutrition in infants, children and adolescents (complicated, co-prescribed with ampicillin or benzylpenicillin) and as second choice, other specified prophylactic measures.

Currently, in the Access group of the EMLs, amoxicillin, ampicillin, benzylpenicillin and chloramphenicol are listed as second choice for bacterial meningitis. Only meropenem (in Watch group) is listed specifically for acute bacterial meningitis in neonates, as second choice. Only cefotaxime and ceftriaxone (in Watch group) are listed as first choices for bacterial meningitis.

According to the WHO and the Maternal and Child Epidemiology Estimation group, 14% of all neonatal deaths in 2017 were due to sepsis or meningitis. Neonatal meningitis has a less typical clinical presentation than meningitis in children or adults. As symptoms of neonatal meningitis and symptoms of neonatal sepsis are very similar, the two conditions overlap, together with their empiric antibiotic treatment. These two neonatal syndromes occur often in settings where families cannot access or do not accept referral care, and/or in settings where lumbar puncture is not feasible.

According to the following guidelines, gentamicin is a key antibiotic in the treatment of suspected early-onset infection in neonates, in particular in suspected meningitis or sepsis:

- 2021 National Institute for Health and Care Excellence (NICE) “Neonatal infection: antibiotics for prevention and treatment” recommends to use intravenous benzylpenicillin with gentamicin as the first-choice antibiotic regimen for empirical treatment of suspected early-onset infection in neonates.
- 2017 updated WHO “Recommendations on newborn health” state that empiric antibiotic therapy for suspected neonatal sepsis includes ampicillin (or penicillin) and gentamicin as the first-line antibiotic treatment for at least 10 days. Young infants (0–59 days old) with clinical severe infection whose families do not accept or cannot access referral care should be managed in outpatient settings with intramuscular gentamicin and twice daily oral amoxicillin (as described below in 2015 WHO Guideline “Managing possible serious bacterial infection in young infants when referral is not feasible”).
- 2016 European Society of Clinical Microbiology and Infectious Diseases guideline, “Diagnosis and treatment of acute bacterial meningitis” states that empiric antibiotic treatment for community-acquired bacterial meningitis for neonates younger than 1 month old includes amoxicillin (or ampicillin or penicillin) + cefotaxime, or amoxicillin (or ampicillin) + an aminoglycoside.
- 2015 WHO Guideline “Managing possible serious bacterial infection in young infants when referral is not feasible” recommends that young infants 0–59 days old with clinical severe infection whose families do not accept or cannot access referral care should be managed in outpatient settings by an appropriately trained health worker with one of the following regimens: intramuscular gentamicin 5–7.5 mg/kg (for low-birth-weight infants: gentamicin 3–4 mg/kg) once daily for seven days plus twice daily oral amoxicillin, 50 mg/kg per dose for seven days or intramuscular gentamicin 5–7.5 mg/kg (for low-birth-weight infants: gentamicin 3–4 mg/kg) once daily for two days plus twice daily oral amoxicillin, 50 mg/kg per dose for seven days.
- 2013 WHO “Pocket book of hospital care for children, guidelines for the management of common childhood illnesses” state that the first-line antibiotics for the treatment of meningitis are ampicillin and gentamicin for 3 weeks.

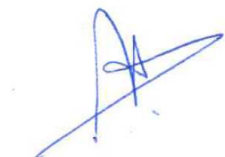
Previously all products listed in the WHO Model List of Essential Medicines for Children were also on the WHO Model List of Essential Medicines: if this logic is maintained, the indication acute bacterial meningitis in neonates should also be added to the existing indications listed for gentamicin in the core list in section 6.2.1 Access group antibiotics of the WHO Model List of Essential Medicines.

MSF recommends using gentamicin in combination with ampicillin (no associated skin infection) or cloxacillin (associated skin infection, including umbilical cord infection), as an alternative to ampicillin (or cloxacillin) in combination with cefotaxime, for the treatment of meningitis in neonates.

MSF has been using gentamicin in its programs since 1988.

MSF urges the 23<sup>rd</sup> Expert Committee on the Selection and Use of Essential Medicines to add the indication acute bacterial meningitis in neonates to the existing indications listed for gentamicin in the core list in section 6.2.1 Access group antibiotics of both the WHO Model List of Essential Medicines and the WHO Model List of Essential Medicines for Children.

For Médecins Sans Frontières

A handwritten signature in blue ink, appearing to be 'M. Henkens', with a long horizontal stroke extending to the right.

Myriam Henkens, MD, MPH  
International Medical Coordinator