
Mumps

Information for Healthcare Workers

Background

Mumps is an acute viral infection caused by the mumps virus, which is a single-stranded RNA paramyxovirus. Sometimes called 'infectious parotitis' as it commonly causes non-suppurative, painful swelling of the parotid and/or salivary glands.

Epidemiology

Mumps is endemic worldwide; however, outbreaks have occurred less frequently since the introduction of the mumps vaccine. Although younger children and adults can also be affected, the most-commonly affected age group is children aged 5 - 9 years. A cross-sectional study conducted in South Africa (SA) found that mumps was most prevalent in children under 10 years of age; however, most of the available data was from the private sector. There is limited data available from the public sector regarding the epidemiology of mumps in SA, as it is not a Notifiable Medical Condition (NMC).

The incubation period for mumps is 16 to 18 days on average, however can range from 2 to 4 weeks. People with mumps are usually considered most infectious from up to seven days before, and until five days after the onset of parotitis. It is therefore recommended that persons with mumps remain in quarantine for five days after the swelling of the parotids begin.

Clinical manifestations

The prodromal symptoms of mumps include headache, malaise, loss of appetite and low-grade fever. This is followed by earache and characteristic tenderness of the ipsilateral parotid gland, which can occur within a day of the initial symptoms. The affected gland will continue to swell over the next 2 to 3 days and is usually accompanied by severe pain. Approximately 25% of patients with parotitis will have unilateral parotid involvement; however, the majority will experience bilateral involvement. The symptoms of pain, fever and tenderness usually resolve soon after the swelling of the parotids has peaked. The parotid glands take approximately one week to return to their normal size.

Parotitis occurs in 60 - 70% of individuals and other salivary glands may be involved in approximately 10% of cases. The most common complications of mumps in children are meningitis and encephalitis. In adults, the most common complication is orchitis, and occurs in 20-30% of post-pubertal males with mumps infection. Some of the other

complications of mumps include oophoritis, meningitis, encephalitis and rarely, pancreatitis, nephritis and deafness. Deafness, in one or both ears, can become permanent in approximately one in 20 000 reported cases of mumps.

Diagnosis

The diagnosis of mumps is usually made on the basis of exposure history and clinical signs and symptoms. The diagnosis may be confirmed by the detection of IgM antibodies in a blood specimen. Alternatively, a four-fold rise in IgG antibodies in serum specimens taken 2 weeks apart confirms the diagnosis. Serum separator (yellow top) or plain (red top) tubes should be used to collect blood.

The NHLS Immunology laboratory conducts mumps antibody testing on blood specimens only.

- Specimens should be labelled 'Braamfontein Immunology Laboratory, NHLS', and the test 'Mumps ELISA' should be requested. Healthcare workers may call the laboratory on 011 489 9194 for further information on testing.

Additionally, a reverse-transcriptase PCR test may also be done on saliva, CSF or blood to detect mumps virus RNA in clinical specimens. In uncomplicated cases, the best sample for mumps diagnosis is saliva. However, viral shedding appears to be limited to 5 days after onset of symptoms.

- The Tygerberg NHLS Virology Department offers this test and can be contacted on 021 938 4330.

Most private sector laboratories offer both serology and PCR for diagnosing mumps.

Prevention

The World Health Organization (WHO) recommends that all member states include the 'measles, mumps and rubella' (MMR) vaccine in their national immunisation schedules. The recommended vaccine coverage to sustain elimination of disease is 95%. In SA, the MMR vaccine is **not** part of the Expanded Program for Immunization (EPI) and is therefore only available in the private sector. The MMR vaccine is a combination of live attenuated measles, mumps and rubella viruses. The first dose of MMR should be given to children at 12 –15 months of age and the second dose should be given at 4 – 6 years of age. In some instances, the MMR vaccine can result in swelling of the parotids which can be confused with mumps. Adverse events following immunisation (AEFI) must be reported using the MedSafety mobile application which can be downloaded using this link: <https://medsafety.sahpra.org.za/>.

Treatment

Treatment for mumps parotitis is symptomatic and supportive and includes the use of analgesics and antipyretics. Topical use of hot or cold packs to the affected glands may help alleviate some symptoms. Intravenous (IV) fluids may be required in patients who present with excessive vomiting due to meningitis or pancreatitis.

For more information

1. Health care workers can call the 24-hour NICD Clinician Hotline for emergency medical advice and assistance: 0800 212 552.

2. Other informative websites include:

www.who.int

www.immunize.org

www.cdc.gov/vaccine/pubs/surv-manual/chpt09-mumps.html

<https://www.nhs.uk/conditions/mumps/>