

Mycobacterium chimaera and cardiac surgery

Reminder for NSW Clinicians

H21/124591

KEY POINTS:

1. Six cases of *M. chimaera* infection have been identified in NSW following exposure to contaminated heater-cooler devices during cardiac surgery since 2015.
2. Consider *M. chimaera* infection in patients presenting up to 6 years after cardiac surgery with symptoms of unexplained infection.

BACKGROUND

Six confirmed cases of *M. chimaera* infection have been reported in cardiac surgery patients in NSW. All six patients had cardiac surgery at the Prince of Wales Hospital in 2015.

This is part of a global outbreak of *M. chimaera* infections linked to exposure to contaminated heater-cooler devices during cardiac surgery. Infections have presented **up to 6 years after cardiac surgery**.

PATIENTS AT RISK

Cardiac surgery patients exposed to Stöckert 3T heater-cooler devices (HCD) made by Sorin/LivaNova and contaminated during manufacture before September 2014 are at risk in the 6 years following their surgery. The overall risk is very low but is increased for patients whose surgery included heart valve replacements, prosthetic implants or vascular grafts.

The relevant periods of risk when contaminated HCDs were in use at particular hospitals can be found in the [Communicable Diseases Factsheet: Mycobacterium chimaera – information for open-heart surgery patients](#).

RECOMMENDATIONS

Suspect Case Definition:

1. Clinical criteria – one or more of the following:

- Prosthetic valve endocarditis
- Sternal wound infection
- Manifestations of disseminated infection including embolic and immunologic manifestations [1] and negative routine bacterial cultures and serological tests for Q fever, bartonellosis and legionellosis.
- Prosthetic vascular graft infection
- Mediastinitis

2. Exposure criteria:

- A patient who had surgery requiring cardiopulmonary bypass at one of the hospitals listed on the NSW Health [M. chimaera and surgery alert page](#) during the time periods of concern - see link below.

Testing:

- Collect mycobacterial blood cultures. Collect other tissue specimens as appropriate.
- Request mycobacterial culture in addition to routine MC&S on any tissue specimens collected.
- Tissue samples from suspect cases can be tested for *M. chimaera* by PCR at the NSW Mycobacterial Reference Laboratory at NSWHP-ICPMR, if required.
- Please ensure that surgical date, details, and current pathology are included in microbiology requests.

Treatment:

- Once the diagnosis is suspected, seek expert infectious diseases advice about empiric treatment and referral to a specialist centre.
- Regimens used to date are combination antimicrobials, e.g. clarithromycin, rifabutin, ethambutol, sometimes including a fluoroquinolone or amikacin. Please seek expert Infectious Diseases advice.

FURTHER INFORMATION

- ❖ Clinical Excellence Commission on (02) 92695500 or email: cec-hai@health.nsw.gov.au.
- ❖ NSW Health: www.health.nsw.gov.au/Infectious/alerts/Pages/m-chimaera-and-surgery-alert.aspx
- ❖ *International Society of Cardiovascular Infectious Diseases guidelines for the diagnosis, treatment and prevention of disseminated Mycobacterium chimaera infection following cardiac surgery with cardiopulmonary bypass*. Hasse B, Hannan MM, Keller PM et al. J Hosp Infect. 2020 Feb. doi:10.1016/j.jhin.2019.10.009.

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[1] Including splenomegaly, arthritis, osteomyelitis, bone marrow involvement with cytopenia, chorioretinitis, hepatitis, nephritis, myocarditis. Some cases have presented with a sarcoidosis-like illness.