

Mycobacterium chimaera and cardiac surgery patients

Information update for NSW Clinicians – 19 September 2018

H18/82147

KEY POINTS:

1. Five cases of *Mycobacterium chimaera* infection have been identified in NSW following exposure to contaminated heater-cooler devices during cardiac surgery
2. Consider late post-surgical *M. chimaera* infections in patients meeting the case definition
3. Report suspected cases to the Clinical Excellence Commission

Update:

A fifth confirmed case of *M. chimaera* infection has been reported in a cardiac surgery patient.

All five cases had undergone cardiac surgery at the Prince of Wales Hospital in 2015.

M. chimaera infections have been associated with exposure to contaminated heater-cooler devices (HCD) globally.

- Patients may have been infected during surgery via aerosols from a contaminated HCD depositing on exposed tissues. Serious infections may present **up to 5 years after the surgery**.

The overall risk of *M. chimaera* infection after cardiac surgery is very low, but is believed to be higher for:

- Patients who had cardiac surgery that included prosthetic material such as valve replacement or aortic grafts
- Patients who were exposed to the same heater-cooler device linked to a confirmed *M. chimaera* case.

The risk of infection may be increased for cardiac surgery patients who were operated on at **Prince of Wales Hospital**, including patients from **Prince of Wales Private Hospital** and **Sydney Children's Hospital, Randwick**.

SUSPECTED CASE DEFINITION

1. Clinical criteria

One or more of the following:

- Prosthetic valve endocarditis
- Prosthetic vascular graft infection
- Sternal wound infection
- Mediastinitis
- Manifestations of disseminated infection including embolic and immunologic manifestations [1]

AND negative routine bacterial cultures and negative serological tests for Q fever, bartonellosis and legionellosis.

2. Exposure criteria:

- A patient who had surgery requiring cardiopulmonary bypass prior to the onset of symptoms at one of the hospitals listed in the **Hospital Reference Table** below (Page 2) during the time periods of exposure concern. *Note that patients who had surgery in other states or overseas could also have been exposed.*

TESTING for *M. chimaera*

- Collect mycobacterial blood cultures. Collect other tissue specimens as appropriate. You may need to discuss with your laboratory regarding appropriate culture collection media.
- Request mycobacterial culture in addition to routine M,C & S on any tissue specimens collected.
- Alternately, after the assessment of *M. chimaera* risk, infected tissue samples can be tested 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.
- Once the diagnosis is suspected, empiric treatment and referral to a specialist centre is recommended.

TREATMENT for *M. chimaera*

- Regimens used to date are combination antimicrobials, e.g. clarithromycin, rifabutin, ethambutol, sometimes including a fluoroquinolone or amikacin. Please seek expert Infectious Diseases advice.
- Following initiation on a multi-agent antimicrobial regime consideration can be given to surgical reduction of the infectious burden, with ongoing long-term multi-agent antimicrobial therapy.

Further Information

- Contact the Clinical Excellence Commission on (02) 9269 5500 or email cec-hai@health.nsw.gov.au.
- NSW Health updates: www.health.nsw.gov.au/Infectious/alerts/Pages/m-chimaera-and-surgery-alert.aspx

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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.

Hospital Reference Table: NSW / ACT Hospitals which used affected Sorin 3T heater-cooler devices.

	Hospital	Period of Exposure Concern
NSW Public	Children's Hospital Westmead	January 2012 – August 2016
	Prince of Wales Hospital	January 2012 – August 2016
	St George Hospital	January 2012 – April 2018 *
	Sydney Children's Hospital (Randwick)	January 2012 – August 2016
NSW Private	Newcastle Private Hospital	July 2014 – September 2016
	Norwest Private Hospital	January 2012 – August 2016
	Prince of Wales Private Hospital	January 2012 – August 2016
	St George Private Hospital	January 2012 – January 2017
	The Sydney Adventist Hospital (Wahroonga)	22 January 2015 – 18 June 2015
	Westmead Private Hospital	June 2014 – December 2016
ACT	National Capital Private Hospital	November 2011 – August 2016
	Canberra Hospital	July 2014 – November 2016

* The period of concern was extended for St George Hospital patients following the identification of a second contaminated heater-cooler device in April 2018.