

Information for general practitioners

Mycobacterium chimaera: Assessing patients who have had cardiothoracic surgery or extracorporeal membrane oxygenation (ECMO)

Background

It is now recognised that patients who have been on cardiopulmonary bypass for surgery or ECMO may have been exposed to the organism *Mycobacterium chimaera*, a non-tuberculous environmental mycobacterium which has been found to contaminate heater cooler units used for cardiopulmonary bypass. This organism has caused endocarditis, vascular graft infections, disseminated infections, or chronic sternal wound infections in patients in the UK and internationally.

Infection risk

The infection risk from *M. chimaera* is small compared to the background risk of infection recognised following this type of surgery and as such, in this context any increased risk posed by *M. chimaera* is extremely small.

Almost all cases in the UK have been associated with valve replacement or repair; in this group the risk is estimated at 1 in 5000. For other procedures, the risk is likely to be much lower. Although such infections are rare, there have been some associated deaths. The presentation can be very non-specific. The incubation period of these infections has been up to five years in the UK, but the upper limit is unknown.

Notification of very large numbers of patients who are at extremely low risk has the potential to cause harm through anxiety and distress. Given the overall low level of risk of infection it was felt necessary to balance the potential harms of contacting patients at very low risk against the likelihood of acquiring the infection and therefore only those patients deemed at highest risk were included. A notification letter has been issued to the patients at most risk; this group is those patients who have undergone valve replacement or repair since 1 January 2013.

Even though the overall risk for all groups is low, investigations undertaken to date have indicated that patients who have undergone heart/lung transplant, and patients who have had non valve related congenital heart disease repair appear to be at even lower risk of infection with *M. chimaera*. Therefore these patient groups were out with the scope of the PNE and were **not** included in the main exercise. These groups will be followed up by their clinical team and will receive information as part of their hospital clinical follow up at their next appointment.

It should be noted that in the event of a case outside the highest risk group, the clinical guidance and improved awareness generated should still improve timeliness of appropriate diagnosis.

Going forwards, the specific infection risks posed by use of HCUs will now be included as part of the operative consent process to ensure that patients are fully informed of the potential risks.

The PNE letter (provided in Appendix 1) will direct patients to the NHS Inform website for information (including a video from a cardiothoracic surgeon) and to an NHS 24 helpline. They are directed to speak to their practice to ensure that a record is made that they have received these letters.

In the event that a patient has symptoms, they are advised to speak to you and/or NHS 24.

Patient assessment

Please use the following screening questions if you are assessing a patient in whom you think this infection is a possibility:

1. Has the patient undergone cardiothoracic surgery on cardiopulmonary bypass or been placed on extracorporeal membrane oxygenation (ECMO)?

Examples of surgery conducted on bypass or in which bypass may have been used are heart valve repair/replacement, aortic graft procedures, coronary artery bypass graft, heart/lung transplant and some congenital heart disease repairs. The interval between surgery and symptoms can be several years (up to five years so far in the UK, but the upper limit is unknown).

2. Does the patient have any of the following?

- symptoms of a chronic systemic illness eg fever, malaise, weight loss, joint pain, cough or shortness of breath, without a known or clinically apparent explanation?
- symptoms and/or signs of endocarditis?
- a persistently infected surgical wound following cardiothoracic surgery?
- another symptom or sign for which no cause has been found despite usual investigation?

If the answer is **yes** to both Questions 1 and 2, the patient should then be discussed with the respective cardiothoracic treatment centre or infectious diseases services urgently, as they may require further clinical assessment and investigation for *Mycobacterium chimaera* (as well as other causes of their presentation).

The referral pathways for each of the treatment centres are detailed below:

Golden Jubilee National Hospital:

- Patients with wound problems should be referred back via SCI Gateway and addressed to the original consultant. It should be noted that some consultants are no longer at GJNH and therefore these referrals would be acted upon by the consultant on call for that week.

- Patients for whom endocarditis is a possibility must be referred back to their cardiologist (not cardiac surgeon) as they will require intensive work up/treatment before surgery is considered.

Royal Hospital for Children, NHS Greater Glasgow and Clyde

Contact: Irene Buchanan

Telephone: 0141 4516497

Email: irene.buchanan@ggc.scot.nhs.uk

Referral through EDT process:

Clinical Pathway to be used for patients needing assessment / treatment

- Patients with wound problems should be referred back via SCI Gateway and addressed to the original consultant.
- Patients whom endocarditis is a possibility must be referred back to their cardiologist (not cardiac surgeon) as they will require intensive work up/treatment before surgery is considered.

NHS Lothian

Contact: Athina Pandelis (Waiting List Co-ordinator Cardiothoracic Surgery)

Telephone: 0131 242 3952.

Email: cardiothoracicsurgeryreferral@nhslothian.scot.nhs.uk

NHS Grampian

Please refer patients back via the SCI Gateway system.

Ross Hall Hospital

Please contact the BMI Incident Management hotline via the National Enquiries Centre on 0800 096 2254.

Management of patients who may have been exposed but are currently well

Media reports and/or notification letters may mean that some patients present who have been exposed to heater cooler units but are not unwell.

If the answer is **yes** to Question 1 but the patient is **currently well**, please reassure the patient and note in their record that they have been exposed to heater cooler units.

Please provide them with the NHS Inform information available via the link below and advise them to return if they develop symptoms.

Further information

[NHS Inform](#)

[Public Health England](#) The PHE webpage includes clinical guidance for secondary care across the UK as well as updates on the UK situation.

Appendix 1

Scottish version of Patient Letter for Patient Notification Exercise re *M. chimaera*.

Dear [Patient name or name of Parent or Guardian]

This is an information and advice letter about a rare infection.

We are contacting patients who have had certain types of open-heart surgery in the past to make them aware of a potential, but very low, infection risk.

If you are generally well and do not have any symptoms, then you do not need to worry or take any action and there is no need for you to have any tests done.

On behalf of NHS Scotland, Health Protection Scotland (HPS) with other UK colleagues* have carried out an investigation suggesting that a device used to heat and cool the blood during some types of heart surgery has been linked to a rare bacterial infection caused by *Mycobacterium chimaera* (*M. chimaera*). This device is essential for carrying out some types of surgery and we are now working on reducing the risk. This is an issue that has affected this type of machine across the world.

The risk from this infection is very low - about one person in every 5,000 people who have open heart surgery for valve replacement or repair may develop it. For patients who do become infected, this infection can be slow to develop and difficult to diagnose. It is possible to develop symptoms years after surgery which is why we are letting people know what symptoms to look for.

What to do next?

If you are well and have no symptoms (listed below), you do not need to do anything immediately. Be aware of the symptoms, particularly because the infection can take up to five years after surgery to appear.

Further information about this infection can be found on NHS 24's website - NHS Inform - at <https://www.nhsinform.scot/campaigns/mycobacterium-chimaera> . There, you will find a video which explains all you need to know, as well as other relevant details.

An NHS 24 patient helpline will also be available. The number to is 0800 028 2836 and is open between 8am and 10pm, seven days a week. It is free to call from landlines and mobiles and will be available from Monday 20 March.

Your GP has been contacted separately and asked to make a note on your records that you have had one of the types of open-heart surgery that carries this very low risk of infection. When you next visit your GP, we recommend that you take this letter with you and ask your GP to check that the information has been added to your patient record. You don't need to make an appointment just to do this if you are otherwise well.

What should I do if I have symptoms from the list you have provided (please see list below)?

If you feel unwell and have one or more of the symptoms listed below, please contact the patient helpline at NHS 24 for further information or speak to your GP. If you are diagnosed with the infection, treatments are available.

What about future heart surgery?

In the event that any further heart surgery may be recommended for you in the future, it is important to stress that the risks of infection from this bacteria are very low and much lower than the risks involved in not having appropriate surgical treatment.

Symptoms of M. chimaera

Symptoms of an infection with this bacteria have many of the same features of other illnesses. Therefore, if you experience any of the following, while it is unlikely to be caused by this bacteria, it should be considered as a possibility that needs to be excluded.

Symptoms to be aware of include:

- Unexplained fevers
- Unexplained weight loss
- Increasing shortness of breath
- Waking up with bed sheets showing signs of sweating (night sweats)
- Joint or muscular pain
- Nausea, vomiting or abdominal pain
- Abnormal levels of tiredness / fatigue
- Pain, redness, heat and / or pus around the surgical site.

There are many other causes for these symptoms so should you experience any of these there is no need to be alarmed – just report these to NHS 24 or your General Practitioner.

Please note this infection cannot be spread from person-to-person.

Who has been involved in this investigation?

*HPS has carried out this investigation in collaboration with the NHS boards, private healthcare providers, other devolved administrations, Public Health England (PHE), the Medicines and Healthcare Regulatory Authority (MHRA) and NHS England.

Yours sincerely