EPAR summary for the public

Cubicin
daptomycin

This document is a summary of the European public assessment report (EPAR) for Cubicin. It explains how the Committee for Medicinal Products for Human Use (CHMP) assessed the medicine to reach its opinion in favour of granting a marketing authorisation and its recommendations on the conditions of use for Cubicin.

What is Cubicin?

Cubicin is a powder that is made up into a solution for injection or infusion (drip) into a vein. It contains the active substance daptomycin.

What is Cubicin used for?

Cubicin is used to treat the following bacterial infections:

- complicated infections of the skin and the ‘soft tissues’ below the skin in adults and children from 1 to 17 years of age. ‘Complicated’ means that the infection is difficult to treat, because it has spread to the deep tissues below the skin, treatment with surgery might be needed, or the patient has other conditions that might affect the response to treatment;
- right-sided infective endocarditis (infection of the lining or the valves of the right side of the heart) caused by the bacterium Staphylococcus aureus (S. aureus) in adults. The decision to treat this type of infection with Cubicin should be based on the likelihood that the medicine will work against the infection and on advice from an expert;
- bacteraemia (infection of the blood) caused by S. aureus, associated with either of the two infections above, in adults.

Prescribers should consider official guidance on the use of antibiotics.

The medicine can only be obtained with a prescription.
How is Cubicin used?

In adults, Cubicin is given into a vein by a doctor or a nurse as an infusion lasting 30 minutes or as an injection lasting two minutes. For skin or soft tissue infections without bacteraemia, Cubicin is given at a dose of 4 mg per kilogram body weight once every 24 hours for seven to 14 days or until the infection has cleared up. For endocarditis and for skin or soft tissue infection with bacteraemia, the dose is 6 mg/kg every 24 hours.

In children with complicated skin or soft tissue infections aged 7 to 17 years, Cubicin is given as an infusion lasting 30 minutes, whereas in children aged 1 to 6 years the infusion should last 60 minutes. The dose in children changes with age and varies between 5 to 10 mg/kg once every 24 hours for up to 14 days.

The duration of treatment depends on the risk of complications and official recommendations. Cubicin should not be given more than once a day. Depending on the type of infection being treated and whether a patient has more than one infection, other antibiotics may be given during treatment with Cubicin.

Cubicin should only be used in patients who have problems with their kidneys if the benefit of treatment is greater than its potential risk, in which case it may need to be given less often.

How does Cubicin work?

The active substance in Cubicin, daptomycin, is an antibiotic that belongs to the group 'lipopeptides'. It can stop the growth of certain types of bacteria by attaching to the membrane around each bacterial cell and upsetting the essential functions that keep the cell alive. A list of bacteria against which Cubicin is active can be found in the summary of product characteristics (also part of the EPAR).

How has Cubicin been studied?

Cubicin infusions have been studied in two large studies involving 1,118 adults with complicated skin and soft tissue infections (mainly wound infections and major abscesses) and in one study involving 246 adults with bacteraemia caused by S. aureus, including 35 who also had right-sided infective endocarditis. A fourth main study involved 396 children aged between 1 and 17 years with complicated skin and soft tissue infections. In all the studies, Cubicin was compared with standard treatments for these infections (other antibiotics such as vancomycin or one of the penicillins, including oxacillin, cloxacillin, flucloxacillin and nafcillin). The studies looked at whether the infections had been cured or had improved.

Two further studies were carried out in a total of 40 healthy volunteers to show that Cubicin injections are as safe as the infusions, and that they produce similar levels of daptomycin in the blood.

What benefit has Cubicin shown during the studies?

Cubicin was as effective as the standard treatments.

In the studies of skin and soft tissue infections in adults, the success rates at seven to 12 days after the last injection of Cubicin were 67% in one study and 85% in the other. The difference in response rates between the two studies was due to differences in the types of patients and infections being treated.
For the treatment of bacteraemia in adults with right-sided infective endocarditis, 42% of the patients receiving Cubicin (8 out of 19) and 44% of the patients receiving standard treatment (7 out of 16) were treated successfully. However, there was insufficient evidence to support the use of Cubicin to treat bacteraemia in patients who did not have either right-sided infective endocarditis or complicated skin and soft-tissue infections.

In the study in children with skin and soft tissue infections, 88% of the patients receiving Cubicin (227 out of 257) and 86% of the patients receiving standard treatment (114 out of 132) were treated successfully.

**What is the risk associated with Cubicin?**

The most common side effects with Cubicin (seen in between 1 and 10 patients in 100) are infections caused by fungi (moulds and yeasts), urinary tract infections (infection of the structures that carry urine), Candida infection (a fungal infection), anaemia (low red blood cell counts), anxiety, insomnia (difficulty sleeping), dizziness, headache, hypertension (high blood pressure), hypotension (low blood pressure), gastrointestinal and abdominal pain (stomach ache), nausea (feeling sick), vomiting, constipation, diarrhoea, flatulence (gas), bloating and distension (feeling as if the tummy is full), rash, pruritus (itching), pain in the limbs (arms or legs), infusion site reactions, pyrexia (fever), asthenia (weakness), abnormal liver tests and raised levels in the blood of an enzyme called CPK (a marker of muscle damage). Serious side effects include hypersensitivity (allergic) reactions, eosinophilic pneumonia (infection of the lungs), drug rash with eosinophilia and systemic symptoms (DRESS, a severe skin reaction), angioedema (rapid swelling of deeper skin tissues) and rhabdomyolysis (breakdown of muscle fibres). For the full list of all side effects reported with Cubicin, see the package leaflet.

Caution is needed when Cubicin is given to patients with kidney problems and the medicine may need to be given less often. All patients must have their CPK levels measured at the beginning of their treatment and at regular intervals, particularly if they have any known risk factors for muscle damage. For the full list of precautions and restrictions with Cubicin, see the package leaflet.

**Why has Cubicin been approved?**

The CHMP decided that Cubicin’s benefits are greater than its risks and recommended that it be given marketing authorisation.

**What measures are being taken to ensure the safe and effective use of Cubicin?**

A risk management plan has been developed to ensure that Cubicin is used as safely as possible. Based on this plan, safety information has been included in the summary of product characteristics and the package leaflet for Cubicin, including the appropriate precautions to be followed by healthcare professionals and patients.

In addition, the company that markets Cubicin will provide all doctors who are expected to use Cubicin with a dosage card to ensure the safe use of the medicine.

**Other information about Cubicin**

The European Commission granted a marketing authorisation valid throughout the European Union for Cubicin on 19 January 2006.
The full EPAR for Cubicin can be found on the Agency’s website: ema.europa.eu/Find medicine/Human medicines/European public assessment reports. For more information about treatment with Cubicin, read the package leaflet (also part of the EPAR) or contact your doctor or pharmacist.

This summary was last updated in 12-2015.