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Zavicefta (*ceftazidime / avibactam*)

An overview of Zavicefta and why it is authorised in the EU

What is Zavicefta and what is it used for?

Zavicefta is an antibiotic used in adults and children from birth to treat the following infections:

- complicated (difficult to treat) infections of the tissues and organs in the belly (intra-abdominal infections);
- complicated infections of the urinary tract, including pyelonephritis (kidney infection);
- infections of the lungs caught in hospital (hospital-acquired pneumonia), including ventilator-associated pneumonia (pneumonia caught from a ventilator, a machine that helps a patient to breathe).

Zavicefta can be used in adults and children from birth for infections caused by aerobic Gram-negative bacteria (types of bacteria) when other treatments might not work.

Zavicefta can also be used in adults for infections of the blood (bacteraemia) associated with any of the above infections.

Zavicefta contains the active substances ceftazidime and avibactam.

How is Zavicefta used?

Zavicefta can only be obtained with a prescription, and prescribers should take into account official guidance on the use of antibiotics. The medicine should only be used after consultation with a doctor experienced in managing infectious diseases.

Zavicefta is given by infusion (drip) into a vein. The infusion is given over 2 hours, usually 3 times daily. Treatment usually lasts between 5 and 14 days, depending on the type of infection.

For more information about using Zavicefta, see the package leaflet or contact your doctor or pharmacist.

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How does Zavicefta work?

The active substances in Zavicefta are ceftazidime and avibactam. Ceftazidime is an antibiotic called a cephalosporin, which belongs to the wider group 'beta-lactams'. Cephalosporins interfere with the building of cell walls in bacteria. This weakens bacterial cell walls and they break down, causing the bacteria to die.

Avibactam blocks the action of bacterial enzymes called beta-lactamases. These enzymes enable bacteria to break down beta-lactam antibiotics such as ceftazidime, making them resistant to the antibiotic's action. By blocking these enzymes, avibactam allows ceftazidime to act against bacteria that would otherwise be resistant.

What benefits of Zavicefta have been shown in studies?

Adults

The benefits of Zavicefta have been shown in five main studies in adults.

In two studies, the combination of Zavicefta and metronidazole (another antibiotic) was at least as effective as the antibiotic meropenem in 1,490 patients with complicated intra-abdominal infection. In one of the patient groups in the first study, 92% of patients treated with Zavicefta and metronidazole were cured, compared with 93% of patients treated with meropenem. In the second study, 94% of patients treated with Zavicefta and metronidazole were cured, compared with 94% of patients treated with meropenem.

A third study looked at 332 patients with complicated intra-abdominal or urinary tract infections caused by Gram-negative bacteria that were resistant to ceftazidime. Zavicefta alone (for urinary tract infection) or in combination with metronidazole (for intra-abdominal infection) was as effective as alternative antibiotics: 91% of patients were cured after treatment with Zavicefta compared with 91% after treatment with the best alternative antibiotic. In addition, disease-causing bacteria were eliminated in 82% of patients after treatment with Zavicefta compared with 63% after treatment with the best alternative antibiotic. These results support Zavicefta's activity when combined with the other studies.

In a fourth study, 1,020 patients with complicated urinary tract infections (including pyelonephritis) caused by Gram-negative bacteria were treated with Zavicefta or the antibiotic doripenem. Zavicefta was at least as effective as doripenem: disease-causing bacteria were eliminated in 77% of patients treated with Zavicefta compared with 71% of patients treated with doripenem.

In a fifth study in 817 patients with hospital-acquired pneumonia, of whom 280 had ventilator-associated pneumonia, around 69% of patients treated with Zavicefta were cured compared with 73% of those receiving meropenem.

Data on the effectiveness of Zavicefta in treating blood infections come from patients in these 5 studies who also had blood infection. Across all studies, 87% of patients (47 out of 54) who received Zavicefta with or without metronidazole were cured compared with 83% of those who received another antibiotic treatment (39 out of 47).

Children

Additional studies have shown that when the medicine is given to children at the recommended doses, levels of the medicine in the blood are sufficient to treat the infection, and comparable to those in adults. The medicine is also absorbed, modified and removed from the body in a similar way across the different age groups of children, regardless of the infections they have. Based on these results, Zavicefta was considered to be effective at treating complicated intra-abdominal and urinary tract

infections, hospital-acquired pneumonia, and infections due to aerobic Gram-negative bacteria when other treatments might not work in children.

In addition, in a study in children from 3 months to under 18 years of age with complicated intra-abdominal infection, 92% of patients (56 out of 61) were cured after treatment with Zavicefta plus metronidazole compared with 95% (21 out of 22) of patients who received meropenem. In another study with children from 3 months to under 18 years of age with complicated urinary tract infections, 89% of patients (48 out of 54) were cured after treatment with Zavicefta compared with 83% (19 out of 23) of patients who received cefepime.

In a study involving infants from birth to less than 3 months of age with suspected or confirmed infections caused by Gram-negative bacteria, 81% of patients (17 out of 21) were cured after treatment with Zavicefta for 14 days. The study did not compare Zavicefta with other treatments.

What are the risks associated with Zavicefta?

For the full list of side effects and restrictions with Zavicefta, see the package leaflet.

The most common side effects with Zavicefta (which may affect more than 5 in 100 people) include nausea (feeling sick), diarrhoea and a positive result in a Coombs test (a sign of the development of antibodies involved in breaking down red blood cells).

Zavicefta must not be used in patients who are hypersensitive (allergic) to the active substances in the medicine or any of the other ingredients, or in those who are hypersensitive to other cephalosporin antibiotics or have ever had a severe allergic reaction to another beta-lactam antibiotic (for example penicillin).

Why is Zavicefta approved?

Zavicefta is effective at treating complicated intra-abdominal and urinary tract infections, and hospital-acquired pneumonia in adults and children. It is also effective at treating these infections in adults when they have spread into the blood. In addition, Zavicefta is effective at treating infections due to aerobic Gram-negative bacteria in adults and children when other treatments might not work. Regarding Zavicefta's safety profile, side effects were those expected for the two active substances.

The European Medicines Agency therefore decided that Zavicefta's benefits are greater than its risks and it can be authorised for use in the EU

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

Recommendations and precautions to be followed by healthcare professionals and patients for the safe and effective use of Zavicefta have been included in the summary of product characteristics and the package leaflet.

As for all medicines, data on the use of Zavicefta are continuously monitored. Side effects reported with Zavicefta are carefully evaluated and any necessary action taken to protect patients.

Other information about Zavicefta

Zavicefta received a marketing authorisation valid throughout the EU on 23 June 2016.

Further information on Zavicefta can be found on the Agency's website: ema.europa.eu/medicines/human/EPAR/zavicefta.

This summary was last updated in 10-2024.