

Title

Posaconazole versus voriconazole for primary treatment of invasive aspergillosis: a phase 3, randomised, controlled, non-inferiority trial

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Plain word title:

Is the antifungal drug posaconazole as good as voriconazole as first-line treatment for a life-threatening fungal infection called invasive Aspergillosis?

Summary of trial and results:

Voriconazole is one of the main antifungal drugs for treating life-threatening infections caused by the fungus *Aspergillus* called invasive Aspergillosis. Voriconazole has many side effects itself and can interact with other important medications such as chemotherapy. This means that they may also cause more side effects from other medications or stop them working properly. Posaconazole is a newer antifungal drug that is often used as a backup treatment, and it has less side effects than voriconazole. In this trial they wanted to find out if posaconazole was as good as voriconazole as a first line treatment for invasive Aspergillosis infection.

People aged 13+ could be recruited into the trial if they potentially had invasive Aspergillosis infection and were going to be treated for it. The study was not restricted to patients living with any specific underlying disease such as cancer. People who had previous or chronic *Aspergillus* infections were not included, nor were those who had very severe kidney or liver problems, or had had a lot of antifungal medications already. People were randomly allocated to have either posaconazole or voriconazole, and neither the patients nor the people looking after them knew which drug they were getting.

585 people were recruited into the trial over the course of 6 years, half of the people got posaconazole and the other half got voriconazole. Patients were recruited from 26 different countries, and had an average age of 57.

Researchers found that by 6 weeks following an invasive Aspergillosis infection people in both the posaconazole and voriconazole group had about an 8 in 10 chance of survival. Researchers concluded that posaconazole was as good as voriconazole at treating invasive Aspergillosis.

Less people had side effects from posaconazole (3 in 10) than those that had voriconazole (4 in 10). The side effects with both drugs were often serious enough to require stopping the medication.

Comment relating to the BioDriveAFS trial:

This study shows that for first line treatment of invasive Aspergillosis, posaconazole causes less side effects than voriconazole whilst saving just as many lives by 6 weeks following infection. Voriconazole is already known to be better than another antifungal drug called Amphotericin B at treating these infections. When people develop an infection whilst already on a drug to try and prevent that infection (such as posaconazole to prevent serious fungal infections) doctors usually want to change to a completely different type of medication to treat it. If BioDriveAFS shows that monitoring blood tests is better than giving preventative medication, it means that we can save these medications for when people do develop serious fungal infections, potentially reducing the side effects and increasing the chance of survival.