EARLY RELEASE

New drugs

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Peramivir

Approved indication: influenza

Rapivab (Seqirus)
vials containing 200 mg/20 mL for dilution
Australian Medicines Handbook section 5.3.2, Neuraminidase inhibitors

Neuraminidase inhibitors can be used in the treatment of influenza. They prevent the release of the virus from infected cells.[1] Peramivir is a neuraminidase inhibitor that has a higher affinity for the influenza virus than oseltamivir. It was given an emergency use authorisation in the USA during the H_1N_1 pandemic of 2009.

Unlike oseltamivir, peramivir is given by intravenous infusion. The drug must be diluted then infused over 15–30 minutes. Only a single dose is required. This has a half-life of 20 hours with most of the dose being excreted unchanged in the urine. A lower dose is recommended for patients with a creatinine clearance below 50 mL/minute.

There have been several studies of peramivir for the treatment of influenza. One of the studies used to support the Australian authorisation of peramivir was a Japanese double-blind, placebo-controlled trial. This studied 300 adults who had developed flu-like symptoms within the previous 48 hours. The clinical diagnosis of influenza was confirmed with a rapid antigen test. Nearly all the patients were infected with influenza A subtypes. For the patients randomised to the placebo group, their symptoms resolved in a median of 81.8 hours. Symptoms were alleviated significantly sooner with intravenous peramivir. They resolved in a median of 59.1 hours with a dose of 300 mg and in 59.9 hours with a dose of 600 mg.[2]

Another Asian study has compared these single doses of peramivir with a five-day course of oseltamivir 75 mg twice daily. This double-blind trial randomised 1099 adults within 48 hours of developing influenza, confirmed by rapid antigen testing. Most of the patients were infected with influenza A subtypes. Their symptoms were alleviated in a median of 78 hours with 300 mg peramivir, 81 hours with 600 mg peramivir and 81.8 hours with oseltamivir.[3]

Peramivir is also being compared with oseltamivir in children with influenza. Preliminary results have been published for 85 patients treated with peramivir and 23 given oseltamivir. The symptoms of influenza were alleviated in a median of 75.6 hours with peramivir and 99.8 hours with oseltamivir.[4]

Safety data are available from 2155 patients treated with peramivir. The infusion is generally well tolerated with the most common adverse effects being gastrointestinal, particularly diarrhoea.[2,3] In the comparative trial 10–11% of the patients given peramivir had a decreased neutrophil count compared with 9.3% of the oseltamivir group.[3] Glucose and liver enzymes may increase. Overseas postmarketing data have included rare reports of anaphylaxis, and severe skin rashes. Neuropsychiatric events have also been reported.

The usefulness of neuraminidase inhibitors is limited by the need to give them within 48 hours of symptoms developing. In otherwise healthy people an infusion of peramivir will alleviate symptoms about a day faster than placebo.[2] Its efficacy is similar to oral oseltamivir, but it may reduce fever more rapidly in adults.[3] There is insufficient evidence to show that peramivir is effective for serious cases of influenza requiring hospitalisation. Its efficacy and safety in pregnancy are also unknown. Although the 300 mg dose had similar efficacy, the recommended adult dose is 600 mg as the higher dose reduces viral shedding. As with other neuraminidase inhibitors, the influenza virus may develop resistance to peramivir.

TT manufacturer provided additional useful information

REFERENCES

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The Transparency Score is explained in New drugs: transparency, Vol 37 No 1, Aust Prescr 2014;37:27.

At the time the comment was prepared, information about this drug was available on the websites of the Food and Drug Administration in the USA, the European Medicines Agency and the Therapeutic Goods Administration.

Some of the views expressed in the following notes on newly approved products should be regarded as preliminary, as there may be limited published data at the time of publication, and little experience in Australia of their safety or efficacy. However, the Editorial Executive Committee believes that comments made in good faith at an early stage may still be of value. Before new drugs are prescribed, the Committee believes it is important that more detailed information is obtained from the manufacturer's approved product information, a drug information centre or some other appropriate source.