

INTISARI

Latar belakang Infeksi CMV menjadi penyebab infeksi kongenital utama pada bayi baru lahir di negara berkembang. Sekitar 70-80 % bayi dengan infeksi CMV kongenital tidak bergejala, namun 10-15 % mengalami *sensorineural hearing loss* yang berdampak pada tingginya beban ekonomi. Perbaikan *sensorineural hearing loss* terjadi pada pemberian ganciclovir dan *prodrugnya* valganciclovir. Ganciclovir diberikan secara intravena, sedangkan valganciclovir diberikan per oral dengan lama yang berbeda. Adanya perbedaan rute pemberian namun dengan efektivitas yang sama, menjadikan penilaian efektivitas pembiayaan antar kedua terapi adalah penting dilakukan.

Tujuan Mengetahui *cost effectiveness* terapi ganciclovir intravena selama 6 minggu dan ganciclovir intravena selama 2 minggu dilanjutkan valganciclovir per oral selama 4 minggu pada pasien infeksi CMV dengan manifestasi *sensorineural hearing loss*

Metode Penelitian ini dengan desain deskriptif analitik menggunakan *decision tree analysis* untuk menilai *outcome* klinis dan estimasi biaya pada 2 alternatif terapi. *Probabilistic cost effectiveness analysis* dinilai dengan simulasi *Microsoft Excel* dan dampak *uncertainty* dinilai dengan *multiway sensitivity analysis*.

Hasil Terapi kombinasi dinilai lebih murah namun kurang efektif dibandingkan ganciclovir intravena 6 minggu dengan nilai ICER Rp. 368.368.000,- / DALYs averted. Analisis sensitivitas menunjukkan sebaran plot pada kuadran 3 CEA plane dan terapi kombinasi memiliki kemungkinan lebih *cost effective* pada *willingness to pay* 1 kali GDP.

Kesimpulan Efektivitas ganciclovir intravena 6 minggu lebih baik dibandingkan terapi kombinasi walaupun peluang *cost effective* terapi kombinasi lebih tinggi saat WTP 1 kali GDP.

Kata kunci Infeksi *cytomegalovirus*, *sensorineural hearing loss*, *cost effectiveness analysis*

ABSTRACT

Background CMV infection is the most common cause of congenital infection in developing countries. Around 70-80% baby with congenital CMV are asymptomatic, but 10-15% are with sensorineural hearing loss that contributes to high burden of health economy. Improvement of sensorineural hearing loss occurs in the administration of ganciclovir and its prodrug, valganciclovir. Ganciclovir is given intravenously, while valganciclovir is given orally with different duration of therapy. There are differences in the route of administration but with the same effectiveness, making the assessment of cost effectiveness between the two therapies is important.

Objective To study cost effectiveness of 6 weeks intravenous ganciclovir compared to 2 weeks intravenous ganciclovir continued by oral valganciclovir for 4 weeks in CMV infection patient with sensorineural hearing loss

Methods A decision tree was used to model expected clinical outcomes and expected cost under two alternative treatment strategies. Probabilistic cost effectiveness analysis was performed using Excel simulation and the potential impact of uncertainty were explored in multiway sensitivity analysis.

Results Two weeks intravenous ganciclovir continued by oral valganciclovir for 4 weeks was found to have less cost and less effective than 6 weeks intravenous ganciclovir with the ICER IDR 368.368.000,- / DALYs averted. Sensitivity analysis revealed scattered plots on the 3rd quadrant of CEA plane and cost effectiveness acceptability curve showed combination therapy has higher probability to be cost effective at the willingness to pay 1 times GDP.

Conclusion Effectiveness of 6 weeks intravenous ganciclovir is higher than combination therapy although probability of combination therapy is higher when willingness to pay at 1 time GDP. Needed more subjects to assess the effectiveness of therapies.

Keywords Cytomegalovirus infection, sensorineural hearing loss, cost effectiveness analysis