Objective
A recent randomized trial showed that high dosage oral valaciclovir treatment following first trimester primary maternal cytomegalovirus (CMV) infection resulted in significant reduction in the rate of fetal CMV infection. Following this trial, maternal oral valaciclovir treatment has been offered in Israel to women with evidence of peri-conceptional or first trimester primary maternal CMV infection. Our objective was to determine the effectiveness of valaciclovir in preventing fetal infection following first trimester primary maternal CMV infection.

Methods
Pregnant women with evidence of primary CMV infection acquired either at the peri-conception or during the first trimester, who were treated by valaciclovir 8 gr per day until amniocentesis at 21-22 weeks of gestation, were included. The rate of fetal infection based on PCR of viral DNA in amniotic fluid was determined.

Results
Of 75 patients enrolled, eight patients were excluded: five due to adverse events requiring treatment cessation and three were lost to follow up resulting in 67 patients for analysis of whom 19 had peri-conception infection and 48 had first trimester infection. Maternal adverse events which required cessation of medication included reversible renal failure in 4 (5.3%) patients, one of them was also complicated by ataxia secondary to neurotoxicity of the drug, and nausea in one patient. Of 67 patients included in the analysis, 11 (16.4%) had evidence of fetal CMV infection at amniocenteses, all of them following first trimester infection. Among the 48 patients with primary CMV infection during the first trimester, the vertical transmission rate was 23% (11/48). There was no difference in the time interval between maternal infection to treatment initiation between patients with and without evidence of fetal CMV (30.5 vs 25.2 days, respectively, p=0.24).

Conclusion
Valaciclovir treatment following first trimester primary maternal CMV infection resulted in vertical transmission rate of 23%, which is comparable to the rate observed in our historical controls, who were not treated. In view of the modest effectiveness of valaciclovir treatment in preventing fetal CMV infection observed in this study, and the non-negligible rate of adverse events, a large multi-center randomized trial is urgently needed.