LITERATURE REVIEW OF CMV AU MANAGEMENT

STUDY	Year	Study design	Level of evidence	Number of patients	Type of AU	Control group (yes/no)	Treatment	Treatment outcome	Treatment outcome definition	Conclusions
Accorinti M, Gilardi M, Pirraglia MP, et al. Cytomegalovirus anterior uveitis: long-term follow-up of immunocompetent patients [published correction appears in Graefes Arch Clin Exp Ophthalmol. 2014 Dec;252(12):2029]. Graefes Arch Clin Exp Ophthalmol. 2014;252(11):1817-1824.	2014	Retrospective observational study	3	15	CMV anterior uveitis: PSS in nine patients (60 %), FHI in three patients (20 %) and chronic anterior uveitis in three cases (20 %)	no	All patients were treated with topical dexamethasone 0.2 % (4–6 drops daily as loading dose, than gradually reduced) along with topical ganciclovir, five times daily for two weeks and then three times daily for at least four weeks. Two patients also received oral valganciclovir (900 mg twice daily for 21 days, then 450 mg twice daily for the following months), and four patients received chronic oral acyclovir (800 mg/day) for a mean period of 16.5 ± 3 months (range: 12–18 months)	During and after therapy, 23 relapses in 714 months of follow-up, with a mean of 0.002 uveitis recurrence/month of follow-up/patient. The mean number of uveitis relapses significantly decreased, before and after the diagnosis of CMV anterior uveitis and the administration of the specific therapy, from 0.23 ± 0.17 to 0.03±0.03 (t=4.395, p<0.001). The mean number of uveitis recurrence/month of follow- up/patient did not differ between patients who received topical and systemic antiviral therapy (0.03 ± 0.02) compared with those who received topical therapy only (0.03 ± 0.03, t = 0, p = 1). At the end of follow-up (mean: 62.1 ± 28.5 months) all patients had a quiescent uveitis, with ten of them (66.6 %), under topical low dose steroid therapy, combined in four cases with systemic acyclovir 800 mg/day.	Number of uveitis attacks before and after therapy	Antiviral therapy can reduce the frequency of relapses
Antoun J, Willermain F, Makhoul D, Motulsky E, Caspers L, Relvas LJ. Topical Ganciclovir in Cytomegalovirus Anterior Uveitis. J Ocul Pharmacol Ther. 2017;33(4):313-318.	2017	Retrospective study	4	15	CMV anterior uveitis/endotheliitis: PSS in 14 (93.3%), FHI in 1 (6.7%)	no	0.15% topical ganciclovir, minimum 5 times a day, tapered based on anterior chamber inflammation over the course of 3 months, and subsequently kept on long-term maintenance therapy (3–4 times/day).	Patients had a significantly lower number of recurrences/year posttreatment (0.76 – 0.57) than in the pretreatment period (3.76 – 2.44) (P = 0.001)	Recurrence was defined as the presence of active inflammation, the apparition of new endothelial keratic pre- cipitates, with or without elevated IOP.	0.15% topical ganciclovir have a decreased frequency of CMV anterior uveitis recurrences
Chee SP, Jap A. Cytomegalovirus anterior uveitis: outcome of treatment. Br J Ophthalmol. 2010;94(12):1648-1652.	2010	Retrospective review	4	72 eyes of 70 patients	CMV anterior uveitis	no	Systemic ganciclovir was administered intravenously at 5 mg/kg of body weight twice a day for 6 weeks, followed by 1 g oral ganciclovir three times a day for another 6 weeks, or - when oral valganciclovir became available - valganciclovir 900mg twice a day for 6weeks, followed by 450 mg twice a day for another 6 weeks. If the patient could not afford the systemic medication or had contraindications to systemic therapy, the other alternatives were intravitreal injections of ganciclovir, topical ganciclovir, ganciclovir implant. Eyes on systemic antiviral therapy also received 0.12% prednisolone acetate twice a day. The eyes that were treated with intravitreal injections or ganciclovir 0.15% gel received either ketorolac tromethamine 0.5% four times a day or prednisolone acetate 0.12% twice a day. In all the patients, the antiinflammatory agents were tapered off as the inflammation resolved.	Thirty and six (76.6%) of 47 treatment episodes resulted in a response to antiviral therapy, but there were 27 (75.0%) episodes of recurrences after stopping the treatment. The systemic ganciclovir and the ganciclovir implant had good response rates, but they also had high recurrence rates after cessation of therapy, and the recurrence rate was just as high with a second course of the treatment. Intravitreal injections had good response rates, but the recurrence rate was high. Although ganciclovir gel had moderate response rates, it also had low recurrence rates. The response to ganciclovir gel was unpredictable. Some eyes that did not initially respond responded to a subsequent course and vice versa.	Response to therapy in eyes with chronic anterior uveitis was defined as the clinical resolution of anterior chamber cells and keratic precipitates (KPs) and good IOP control with or without glaucoma medications while on treatment. In eyes with acute recurrent anterior uveitis, response was defined as absence of recurrence of inflammation and normalisation of IOP without glaucoma medications other than that given during the acute episode while on treatment. Failure of therapy in eyes with chronic anterior uveitis was defined as persistence of anterior chamber cells and KPs and/or elevated IOP despite glaucoma medications during the treatment period. Failure of therapy in eyes with acute recurrent anterior uveitis was defined as recur- rence of anterior chamber cells and KPs with elevated IOP during the treatment period.	Ganciclovir gel had lower recurrence rates than the systemic ganciclovir and the implant and should be considered as an option for treatment of CMV anterior uveitis.

de Schryver I, Rozenberg F, Cassoux N, et al. Diagnosis and treatment of cytomegalovirus iridocyclitis without retinal necrosis. *Br J Ophthalmol*. 2006;90(7):852-855	2006	Retrospective study	4	5	CMV anterior uveitis	no	Intravenous ganciclovir or foscarnet were administered for cases 1–4 at an induction course for at least 2 weeks followed by oral valganciclovir (450 mg twice a day) for a period of 2 months. Case 5 was treated with oral valganciclovir only. Topical corticosteroids were tapered.	Relapses occurred in three patients after cessation of therapy. Valganciclovir was restarted with control of inflammation. After a 6 month period of re-treatment they remained asymptomatic and free of inflammation off medication with a mean follow up period of 14 months.	-	Maintenance regimens of valganciclovir may be necessary to prevent further relapses.
Delwig A, Keenan JD, Margolis TP. Topical Valganciclovir for the Treatment of Hypertensive Anterior Uveitis. Cornea. 2015;34(11):1513-1515.	2015	Case report	4	1	CMV anterior uveitis	no	Oral valganciclovir 900 mg twice daily, then reduced to 450 mg twice daily. Nine months after therapy was changed from oral valganciclovir to ophthalmic 1% valganciclovir ointment.	Effective control of ocular inflammation - patient discontinued topical corticosteroids and antihypertensive medications	-	1% valganciclovir ointment may prove to be an effective treatment of hypertensive anterior uveitis associated with clinical signs of CMV iritis
Fan NW, Chung YC, Liu YC, Liu CJ, Kuo YS, Lin PY. Long-Term Topical Ganciclovir and Corticosteroids Preserve Corneal Endothelial Function in Cytomegalovirus Corneal Endotheliitis. Cornea. 2016;35(5):596-601.	2016	Retrospective study	4	10 eyes of 9 patients	CMV corneal endotheliitis	no	Long-term topical 0.5% GCV and topical corticosteroids-topical 0.5% GCV every 2 hours and topical corticosteroids twice a day. The dose frequency was gradually tapered to GCV 4 times and corticosteroids once or twice a day as a maintenance therapy.	A significant resolution of corneal edema and decreased KPs were achieved within 1 month in all patients after initiating topical 0.5% GCV every 2 hours and topical corticosteroids twice a day. All 10 eyes had a clear graft or corneas at the end of this study.	Recurrence of endotheliitis was defined as presentation of localized cornea edema with 1 of the 3 following findings during maintenance therapy: (1) coin- shaped KPs, (2) linear KPs, and (3) increased idiopathic KPs with positive CMV PCR from aqueous taps	Topical 0.5% GCV and corticosteroids as a mainte- nance regimen without interruption effectively preserved long-term corneal endothelial function.
Hedayatfar A, Chee SP. Posner-Schlossman syndrome associated with cytomegalovirus infection: a case series from a non-endemic area. *Int Ophthalmol*. 2014;34(5):1123-1129.	2014	Retrospective case series	4	4	CMV anterior uveitis - PSS	no	Two patients who did not received anti-CMV treatment were switched from topical steroid to topical NSAIDs after detection of CMV in their eyes. Anti-CMV therapy (topical ganciclovir) in two of the patients (pt 1 recalcitrant uveitis and glaucoma; pt 3 frequent attacks)	Patients 1 had an initial satisfactory response to topical ganciclovir, but later in his course of disease, the refractory rise of IOP did not responded to anti-CMV therapy. On the other hand, in patient 4 topical ganciclovir therapy in addition to topical steroids and antiglaucoma medication made him attack free for the last 18 months of follow-up.	-	Anti- CMV therapy should be reserved for cases with recalcitrant course or secondary complications.
Hwang YS, Lin KK, Lee JS, et al. Intravitreal loading injection of ganciclovir with or without adjunctive oral valganciclovir for cytomegalovirus anterior uveitis. *Graefes Arch Clin Exp Ophthalmol*. 2010;248(2):263-269.	2010	Pilot study	-	6	CMV anterior uveitis	no	Intravitreal injection of ganciclovir (2 mg/0.05 ml) as a loading dose. Subsequent use of oral valganciclovir (900 mg twice a day) was determined according to the severity of the post-injection aqueous inflammation (cells 1+). Two patients received only the intravitreal ganciclovir injection once and four patients had received the following oral valganciclovir for average 2.3 months (range, 1– 4 months).	With this treatment strategy, the best-corrected visual acuity of the patients improved or stabilized; the IOP and the inflammation of anterior chamber of the patients were well controlled at all time points and there were no treatment-associated complications by the end of follow-up	Outcome variables recorded included BCVA, IOP, and aqueous inflammation grading.	In patients with CMV anterior uveitis, intra- vitreal ganciclovir injection as a loading dose with or without the following oral valganciclovir can control the inflammation and IOP well.
Keorochana N, Choontanom R. Efficacy and safety of an extemporaneous preparation of 2% ganciclovir eye drops in CMV anterior uveitis. BMJ Open Ophthalmol. 2017;2(1):e000061.	2017	Retrospective cohort design	3	11 eyes	CMV anterior uveitis	no	Topical 2% ganciclovir, applied every 2 hours daily as induction therapy then tapered off and stopped based on clinical response	IOP, number of antiglaucoma drugs used and keratic precipitates decreased significantly at first week ($p<0.013$, $p<0.024$ and $p<0.031$, respectively) followed by decreased anterior chamber cells and significantly reduced frequency of applying steroid eye drops at 4 weeks ($p<0.034$ and $p<0.017$, respectively). Visual acuity significantly improved at 5 months continuously. All clinical improvement was maintained to 12 months, and keratic precipitates were eliminated in 90% of all cases. However, in 27% of discontinued medicine cases, inflammation was recurrent.	Outcome measures were best-corrected visual acuity, anterior chamber cell, coin-shaped and other keratic precipitates, intraocular pressure (IOP), the number of antiglaucoma drugs used, the frequency of steroid eye drops used daily and side effects over a 12-month follow-up period.	Extemporaneous preparation topical 2% ganciclovir was effective and safely controlled CMV anterior uveitis. The medication is non-invasive, economical and convenient for hospitals where commercial topical ganciclovir is unavailable.

Koizumi N, Inatomi T, Suzuki T, et al. Clinical features and management of cytomegalovirus corneal endotheliitis: analysis of 106 cases from the Japan corneal endotheliitis study. Br J Ophthalmol. 2015;99(1):54-58.	2015	Retrospective study	4	109 eyes of 106 patients	CMV endotheliitis	no	Systemic administration of anti-CMV drugs (either ganciclovir or valganciclovir) was performed in 74 eyes (67.9%), and topical administration of ganciclovir prepared from vials for intravenous infusion was also used in 82 eyes (75.2%). Fifty-two eyes (47.7%) received both systemic and topical anti-CMV treatment.	During the observation period, 39 eyes (36%) showed recurrence of inflammation, and anti-CMV treatment was repeated on those eyes.	-	Combined anti-CMV therapy (sys- temic and topical) was more effective than systemic or topical anti-CMV treatment alone
Markomichelakis NN, Canakis C, Zafirakis P, Marakis T, Mallias I, Theodossiadis G. Cytomegalovirus as a cause of anterior uveitis with sectoral iris atrophy. Ophthalmology. 2002;109(5):879-882.	2002	Observational case reports	4	2	CMV anterior uveitis	no	The systemic therapy of both patients was switched from acyclovir to ganciclovir, because the first drug was ineffec- tive in controlling CMV infection. Oral ganciclovir (1000 mg three times a day) for 1/2 years	The responses were impressive regarding disease cessation - asymptomatic, no recurrences	-	-
Mietz H, Aisenbrey S, Ulrich Bartz-Schmidt K, Bamborschke S, Krieglstein GK. Ganciclovir for the treatment of anterior uveitis. *Graefes Arch Clin Exp Ophthalmol*. 2000;238(11):905-909.	2000	Case report	4	1	CMV anterior uveitis	no	Course of intravenous infusions of 450 mg ganciclovir twice per day for a total of 14 days, dexamethasone eyedrops five times daily and systemic prednisolone, subsequantly similar regimen of intravenously administered ganciclovir as described above for a total of 28 days, followed by ganciclovir taken orally 3×1 g/day for 9 weeks plus other 10 weeks	During therapy with the antiviral substance ganciclovir the IOP values always decreased, making it possible to reduce the amount of antiglaucomatous medications. In addition, the intraocu- lar inflammation in that eye subsided, making it possible to taper the antiinflammatory medications. Only a few months after cessation of treatment with ganciclovir, the inflammation of the anterior segment repeatedly returned with an increase of IOP.	Outcome variables recorded included IOP and aqueous inflammation grading.	In this case of anterior uveitis presumably caused by CMV inducing secondary glaucoma, treatment with ganciclovir led to a decrease of the in- flammation and normalization of IOP. It appears that continuous ad- ministration may be required to control the infection in an immunocompetent patient.
Pavan-Langston D, Welch CL, Zegans ME. Ganciclovir gel for cytomegalovirus keratouveitis. *Ophthalmology*. 2012;119(11):2411.	2012	Case report	4	1	CMV anterior uveitis	no	Courses of topical ganciclovir 0.15% gradually tapered and discontinued at 4/5 months, then tapered to twice daily (bid) and maintained for 2 years	Responsive to topical treatment with ganciclovir gel, relapsed rapidly when it was discontinued, and responded well again to therapy and 2 years maintainance with no disease or toxicity	-	This is a report of proven CMV keratouveitis highly responsive to the recently available 0.15% ganciclovir gel (Zirgan, Bausch & Lomb, Rochester, NY) with complete control of disease over 2 years and no toxicity despite daily use of the gel.
Sira M, Murray PI. Treatment of cytomegalovirus anterior uveitis with oral valaciclovir. *Ocul Immunol Inflamm*. 2007;15(1):31-32.	2007	Case report	4	1	CMV anterior uveitis	no	oral valaciclovir 1 g twice daily	No recurrence of his anterior uveitis after 11 months of follow up. Prior to starting the valaciclovir he had eight attacks of anterior uveitis over a 45-month period.	Number of uveitis attacks before and after therapy	Valaciclovir appears to be a good alternative to valganciclovir for maintenance therapy in this condition.
Sobolewska B, Deuter C, Doycheva D, Zierhut M. Long-term oral therapy with valganciclovir in patients with Posner-Schlossman syndrome. Graefes Arch Clin Exp Ophthalmol. 2014;252(1):117-124.	2013	Retrospective observational study	3	11	Clinically diagnosed PSS - PCR AC tap positive for CMV in 5 pt	no	Prior to oral valganciclovir treatment, ten patients had received aciclovir 800 mg five times daily. Valganciclovir was then administered 900 mg twice daily for 3 weeks, followed by 450 mg twice daily for a mean period of 20 months (range 10–46 months). Topical antiviral and/or topical corticosteroid therapy (ganciclovir ophthalmic 0.15 % gel – Virgan®; rimexolone eye drops – Vexol® 1 %; or loteprednoletabonat eye drops – Lotemax®) were applied five times daily together with oral valganciclovir therapy and tapered every 4 weeks by one drop during the reduction of the systemic antiviral treatment.	Despite the systemic acyclovir therapy, patients failed to respond. In seven of 11 (63.6 %) patients, valganciclovir led to resolution of inflammatory activity and stable IOP. In six patients, the therapy could be discontinued after a mean of 14 months. However, two patients had a recurrence after discontinuation of valganciclovir treatment.	Response to valganciclovir therapy was defined as absence of recurrence of inflammation and normalisation of IOP with previously initiated antiglaucoma medication. Failure of therapy was defined as recurrence of anterior chamber cells and/or uncontrolled IOP while on valganciclovir treatment.	Long-term oral therapy with valganciclovir seems to lower the recurrence rate in patients with clinically diagnosed PSS.

Su CC, Hu FR, Wang TH, et al. Clinical outcomes in cytomegalovirus-positive Posner-Schlossman syndrome patients treated with topical ganciclovir therapy. Am J Ophthalmol. 2014;158(5):1024-1031.e2.	2014	Retrospective, comparative, and interventional case series.	4	126	Posner-Schlossman - CMV-positive patients (68 eyes) and CMV-negative patients (58 eyes)	no	Topical 2% ganciclovir solution in CMV-positive according to the results of PCR of aqueous humor taps. Topical ganciclovir was prescribed as a long-term antiviral therapy, without discontinuation.	All 68 eyes (100%) responded positively to treatment, exhibiting anterior chamber inflammation remission, resolution of corneal edema, and good IOP control within one month of topical ganciclovir treatment. Topical steroid use was reduced after anterior chamber inflammation decreased gradually. After the continual administration of topical ganciclovir for 3 months, all eyes exhibited an undetectable level of CMV DNA at repeated taps. No patient with CMV-positive eyes who received topical ganciclovir treatment experienced early treatment failure.	Response to therapy was defined as remission of anterior chamber inflammation, resolution of corneal edema, and good IOP control with or without antiglaucomatous medications after topical ganciclovir had been received for one month. Early treatment failure was defined as persistence of anterior chamber inflammation, corneal edema, or poor IOP control despite the use of antiglaucomatous medications within the first 3 months of treatment. Late treatment failure was defined as relapse of anterior chamber inflammation, the presence of corneal edema, or elevated IOP after 3 months of treatment. Recurrence of CMV-positive Posner-Schlossman syndrome was defined as the presence of active inflammation, corneal edema, endothelial KPs, and elevated IOP with a positive CMV viral load after repeated taps during treatment.	Ganciclovir treatment was effective for clearing the viral load, assisting the IOP control, and preserving the corneal endothelium of CMV-positive Posner-Schlossman syndrome patients.
Takhar JS, Joye AS, Somkijrungroj T, et al. A double masked randomised 4-week, placebo-controlled study in the USA, Thailand and Taiwan to compare the efficacy of oral valganciclovir and topical 2% ganciclovir in the treatment of cytomegalovirus anterior uveitis: study protocol. BMJ Open. 2019;9(12):e033175.	2019	Multicentre, block randomised by site, double-masked, placebo-controlled trial	2	-	CMV anterior uveitis	yes	One-third of participants will receive oral valganciclovir tablets and placebo eye drops (balanced salt solu- tion, BSS), one-third will receive topical ganciclovir 2% eye drops and placebo tablets, and one-third will receive placebo eye drops (BSS) and placebo tablets. Dosing will be four tablets daily (900mg po two times per day) for oral medication and six drops per day for topical.	Ongoing trial - the results of this trial will be presented at local and international meetings and submitted to peer-reviewed journals for publication.	Primary measurement of efficacy of the three treatments arms will be a comparison of the log - transformed quantitative viral load PCR at baseline versus after 7 days of therapy. For the clinical secondary outcome, participants will be classified as 'quiescent' if they demonstrate on clinical examination: less than or equal to 0.5+AC cell AND resolution of other signs associated with active inflammation, including increased IOP, corneal oedema and/or active keratic precipitates (KPs)	The research hypothesis for this study is that oral valganciclovir therapy will demonstrate the greatest efficacy in treating CMV anterior uveitis compared with 2% topical ganciclovir and placebo therapy.
Touhami S, Qu L, Angi M, et al. Cytomegalovirus Anterior Uveitis: Clinical Characteristics and Long-term Outcomes in a French Series. Am J Ophthalmol. 2018;194:134-142.	2018	Retrospective, consecutive case series	4	36 eyes of 35 patients	CMV anterior uveitis - PSS and chronic nonspecific AU were observed in 69.4% and 30.6% of cases respectively	no	Antiviral treatment consisted of an induction dose with either intravenous (IV) ganciclovir (5mg/kg/8h) for 10 days or oral valganciclovir (900mg b.i.d) for 3 weeks followed in all cases by a maintenance dose of valganciclovir (450mg b.i.d) for a minimum of 4 weeks. Antiviral induction therapy consisted of oral valganciclovir in 40% of cases and IV ganciclovir in 60 % of cases. All patients were concurrently treated with anti-inflammatory eye drops (topical steroids) and topical and/or oral anti-glaucoma medications when necessary.	94.2% of patients responded to the first line of therapy. Recurrence was reported in 73.5% of cases.	The primary outcome measures included the response to antiviral therapy and the change in the number of flare-ups after treatment initiation. The secondary outcomes included changes in BCVA, IOP and anterior segment parameters over the follow-up. Response to therapy was based on the parameters that were used by Chee et al. in a previous study 1: For chronic CMV AU, response was defined as resolution of inflammation (anterior chamber cells and keratic precipitates) and IOP control with or without glaucoma therapy while on treatment. For acute recurrent PSS uveitis, response was similarly defined as clinical resolution of inflammation, and normalization of IOP without glaucoma treatments other than those that were given during the acute episode while on treatment.	Early initiation of antiviral therapy (≤700 days) seemed to decrease the recourse to glaucoma surgery. Both IV and oral induction treatments seemed similar in terms of BCVA changes and occurrence of relapses.

van Boxtel LA, van der Lelij A, van der Meer J, Los LI. Cytomegalovirus as a cause of anterior uveitis in immunocompetent patients. Ophthalmology. 2007;114(7):1358-1362.	2007	Retrospective observational case series.	4	5	CMV anterior uveitis	no	valganciclovir (induction twice daily for 3 weeks, followed by a maintenance dose of 900 mg once daily).	Reduction in inflammation and IOP, thus making it possible gradually to decrease steroids and antiglaucoma medications. An attempt to discontinue valganciclovir after 1 year (patient 1) resulted in a prompt reacti- vation of the uveitis. One patient (patient 4) experienced a reacti-vation of his uveitis under maintenance valganciclovir treatment, but reacted promptly to a renewed induction course.	Main Outcome Measures: Visual acuity, inflammation, and intraocular pressure (IOP).	Valganciclovir may be very effective in treating CMV anterior uveitis
Wong JX, Agrawal R, Wong EP, Teoh SC. Efficacy and safety of topical ganciclovir in the management of cytomegalovirus (CMV)-related anterior uveitis. J Ophthalmic Inflamm Infect. 2016;6(1):10.	2016	Retrospective cohort study	3	31 patients (33 eyes)	CMV anterior uveitis	no	ganciclovir 0.15 % gel - Patients were initially started on topical ganciclovir at an intensive frequency of 3 h (six times per day), tapered based on anterior chamber inflammation over the course of 3 months, and subsequently kept on long- term maintenance therapy (three to four times per day). All patients were concurrently treated with anti- inflammatory eye drops, in the form of topical steroids.	Patients on topical ganciclovir gel had a statistically significant fewer episodes of uveitis flare per person year (median −0.88 episodes/person years, p = 0.029). The time-to-quiescence was not significantly affected by topical ganciclovir use (median −1.25 days, p = 0.610). In the survival analysis using the Cox regression model, the use of topical ganciclovir was associated with a lower risk of recurrence, but this was not statistically significant (hazard ratio = 0.857, 95 % CI 0.543–1.36, p = 0.511). The overall median time-to-recurrence was 290 days (95 % CI 113 to 274 days) and 164 days (125 to 404 days) (p = 0.492), with and without topical ganciclovir, respectively.	Compared the disease course of each eye inflicted with CMV anterior uveitis before and after ganciclovir 0.15 % gel was added to the treatment regime. Response to treatment or quiescence was defined as the reduction in anterior chamber (AC) inflammation to nil, with no episodes of flare-up of uveitis, which was defined as an increase in AC activity by one step. The primary outcome measures were time-to-quiescence, time-to-recurrence, and number of uveitis flare-ups per person year.	Topical ganciclovir may be beneficial in reducing the frequency of recurrence in patients with CMV anterior uveitis, but it was not statistically associated with prolonging the time-to-recurrence. The time-to-quiescence was also not significantly affected by topical ganciclovir.