

Herpes Simplex Virus Prophylaxis With Famciclovir in Patients Undergoing Aesthetic Facial CO₂ Laser Resurfacing

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Herpes simplex virus 1 (HSV-1) reactivation may occur in patients undergoing facial carbon dioxide (CO₂) laser resurfacing and can delay healing and result in severe scarring. Prophylactic oral antiviral agents are administered routinely to patients undergoing laser resurfacing to prevent postoperative HSV-1 eruptions; however, dosage and duration of treatment vary in the literature. Famciclovir is a highly effective nucleoside analog used in the treatment of HSV infections. In this study, 60 patients, with and without a prior history of facial HSV-1 outbreaks, were given famciclovir 250 mg twice a day (BID), starting the day before facial laser resurfacing and continuing for 14 days. No reactivation was observed in any of the patients. In this small study, famciclovir 250 mg given BID for 14 days was an effective prophylactic treatment in facial laser resurfacing patients for the prevention of facial HSV reactivation.

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Aesthetic laser resurfacing procedures have gained widespread acceptance and popularity during the last several years. However, one well-known complication of facial laser resurfacing is reactivation of the herpes simplex virus 1 (HSV-1). A postoperative herpetic eruption can

cause widespread infection to treated areas, significantly increasing morbidity, and may result in severe scarring. HSV-1 eruptions occur in approximately 9% of untreated patients, with or without a previous history of oral herpes.¹⁻³ The current standard of care includes treatment of all patients—regardless of HSV status—with prophylactic oral antiviral therapy to prevent new or recurrent facial herpes outbreaks. Treatment is initiated routinely either before or on the day of the procedure and continued postoperatively, though the dose and duration vary.

Famciclovir is a nucleoside analog that interferes with viral DNA synthesis and is highly effective against HSV. Famciclovir has greater bioavailability (77%) than either acyclovir or valacyclovir, and its active metabolite has an intracellular half-life of 10 to 20 hours compared with the less than one hour half-life seen with acyclovir or its prodrug valacyclovir.^{4,5} The present study was designed to assess the effectiveness of famciclovir in preventing facial HSV infections in patients undergoing aesthetic facial carbon dioxide (CO₂) laser resurfacing.

Methods

Over a period of 12 months, 60 patients were seen at 2 study centers for evaluation of facial CO₂ UltraPulse® laser resurfacing. Surgery was deferred in any patient with an active herpes simplex infection at the time of the scheduled procedure. All patients were administered famciclovir 250 mg twice a day (BID) for 14 days, with treatment initiated the day before surgery. A complete medical history, including patient recollection of oral herpes, was obtained from each patient. Patients were monitored daily by telephone or office visit for the first 7 postoperative days to assess symptoms of

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HSV infection, which was determined by the presence or absence of lesions. Because no suspicious lesions were observed, no viral cultures were obtained. As a result, each patient was required to return between days 7 and 14 for postoperative evaluation by the physician.

Results

Of the 60 patients enrolled, 8 (13%) reported a previous history of HSV infection, and 52 (87%) reported no history of HSV. Famciclovir was well tolerated. One (2%) patient however, who was also taking cephalexin, complained of hives. As a result, both cephalexin and famciclovir were discontinued. No HSV outbreaks were observed during the postoperative study period in any of the patients.

Comment

The current standard of care in laser resurfacing is to treat all patients prophylactically with antiviral agents to reduce the risk for HSV-1 reactivation and possible scarring; however, the recommended dosage and treatment duration often vary among clinicians. In the present study, treatment was initiated 24 hours before the procedure, and a 14-day treatment regimen was chosen because HSV outbreaks have occurred as late as day 12 after the procedure.¹ Although the sample size in this study was small, no recurrences were seen in patients who reported a history of oral herpes, and no initial herpes infections were observed in those who did not report a history. This was consistent with Wall et al³ who reported no recurrences in patients treated 1 to 2 days before surgery with famciclovir 250 mg BID for 6 to 7 days.

Previous reports in the literature have recommended different dosage regimens based on patients' reported history of HSV-1, with a lower dose given to patients without a history of oral herpes. Outbreaks have been observed in patients who reported no prior history of HSV when treated with a lower dose of antiviral agents.^{6,7} Given that

most HSV-1 infections are asymptomatic, that an estimated 20% to 40% of the general population have recurrent herpes simplex,⁸ and that patient recollections are frequently unreliable, all patients in this study were given famciclovir 250 mg BID regardless of reported HSV history, with no recurrence observed in either group.

Although no serologic testing was performed, and the number of patients in this study who reported a history of herpes simplex was small, famciclovir was a safe and effective prophylactic treatment for suppression of HSV-1 recurrence in our 60 patients undergoing facial CO₂ laser resurfacing.

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