Management of a Patient with Active Herpes Labialis Infection Undergoing Ventriculoperitoneal Shunt Revision

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Introduction: Ventriculoperitoneal (VP) shunt placement and revision are commonly performed neurosurgical procedures. Oral herpes simplex virus (HSV) infection occurs frequently in the population at large. Contamination of the surgical field with HSV, and thus potentially the cerebrospinal fluid (CSF), could conceivably result in herpes encephalitis, a serious and often fatal condition if left untreated. Currently, there are no published guidelines regarding the management of the patient who presents for neurosurgery with an active oral HSV infection. We present a case and discuss the management of a patient with oral HSV infection undergoing VP shunt revision.

Methods and Results: A 22-year-old female (62 kg) with congenital hydrocephalus presented for a VP shunt revision. Preoperative physical examination was remarkable for a cluster of small vesicular lesions on her upper lip consistent with active HSV-1 infection. An infectious disease consultation was obtained. The consultants recommended proceeding with surgery after application of 5% acyclovir ointment to the lesions. After orotracheal intubation, 5% acyclovir ointment was applied to the lesions, which were then covered with transparent adhesive dressings. The laryngoscope blade and handle were placed in a separate isolated container, and the anesthesia provider’s gloves were removed and discarded. The anesthesia provider’s hands were cleansed with 70% isopropyl alcohol, and the patient underwent a sterile surgical preparation with Hibiclens® (4% chlorhexidine gluconate, Regent Medical). The patient had an uneventful anesthetic course. Postoperatively, the patient was began on valacyclovir 500mg by mouth twice daily and 5% acyclovir ointment applied topically twice daily. At follow up visits six weeks and one year after surgery, the patient did not exhibit any signs or symptoms consistent with encephalitis aside from a headache.

Discussion: The human herpes viruses are neurotropic viruses capable of establishing active and latent infections in the central nervous system, and can cause tissue damage through viral replication and reactivation. HSV-1 infection is a common entity; the seroprevalence in adults reaches approximately 80–95% by the fifth decade of life (1). Herpes simplex encephalitis is a rare condition which, if left untreated, carries a mortality rate of 70% (2). Patients with latent HSV infection are prone to reactivation within the hospital setting, as reactivation most often occurs during periods of stress or immunocompromise; reactivation usually presents as an oral infection (herpes labialis). There are no published reports of herpes encephalitis resulting from contamination of a
surgical wound with HSV from an active oral infection. Though rare, transmission of
HSV between patients and healthcare workers has been documented in the past (3-5).
Anesthesia providers should recognize the potential for serious complications in the
setting of active oral HSV infection and neurosurgery and take appropriate preventative
measures. If the likelihood of contamination with HSV is high, cancellation of the
procedure may be warranted.

Refs:

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