## 1445. Investigation of an Outbreak of Surgical Site Infections Following Craniotomies, Associated with a Cavitron Ultrasonic Surgical Aspirator

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***Background.*** We investigated an outbreak of surgical site infections (SSIs) following craniotomies in patients treated in the neurosurgery department of the Centre Hospitalier Universitaire de Sherbrooke in Quebec, Canada.

***Methods.*** Electronic surveillance and an electronic medical record review of infected cases were performed to identify cases. Cases were defined as patients who underwent a craniotomy/craniectomy between January and June 2015 and acquired an SSI. The Centers for Disease Control and Prevention National Healthcare Safety Network criteria for intracranial infections and meningitis or ventriculitis were used, but patients were followed up for 180 days after surgery instead of 90 days.

***Results.*** Of the 80 patients who underwent a craniotomy/craniectomy during the study period, 9 (11.3%) met the case definition. This rate was higher than the rate observed between 2002 and 2014 (51 infections/2011 surgeries [2.5%]; $P < 0.0001$). Six patients had an additional craniotomy for cerebral or epidural abscess drainage, and 3 patients had meningitis. Microbiological cultures grew the following microorganisms: *Propionibacterium acnes* (n = 5), *Staphylococcus aureus* (n = 2), *Streptococcus agalactiae* (n = 1), *Enterococcus faecalis* (n = 1), and *Bacteroides fragilis* (n = 1). Cultures were polymicrobial in 2 patients. A temporal association was observed between the change in the sterilization process of the Cavitron ultrasonic surgical aspirator (CUSA), a power surgical tool (SPT) used for these surgeries, and the beginning of the outbreak. Suboptimal CUSA disassembly and manual cleaning were observed. No further cases were observed after the replacement of the CUSA with other advanced ultrasonic medical devices with an easier assembly/disassembly process (Sonastar and Sonopet).

***Conclusion.*** The features of this outbreak provided evidence for the transmission of infection through an inadequate cleaning process in the sterilization department followed by suboptimal sterilization. It emphasizes that SPTs have complex design that may restrict access to cleaning and sterilization agents. Healthcare professionals should carefully review manufacturers' assembly/disassembly instructions prior to use.

***Disclosures.*** **All authors:** No reported disclosures.