

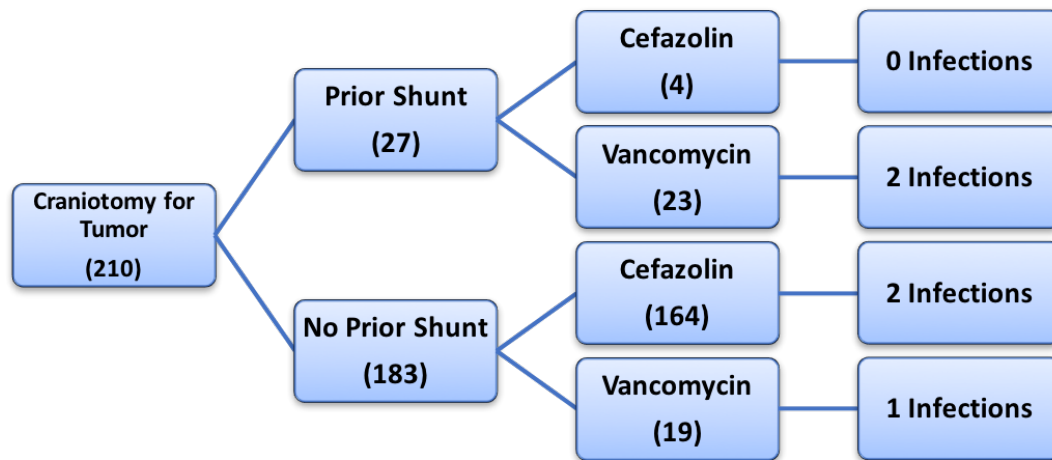
Introduction

Incidence of surgical site infection (SSI) among patients receiving craniotomy for tumor resection with a prior ventriculoperitoneal shunt is often higher than in non-shunted cases. Administering the proper antibiotic is necessary for the prevention of SSI for patients with and without shunts. We evaluated the infection rates of cefazolin and vancomycin for craniotomy for tumor patients with and without shunts.

Methods

An IRB-approved multi-armed, retrospective analysis of data pertinent to craniotomy for tumor, shunt, and prophylactic antibiotics was employed to evaluate infection rate in 210 patients during a nine-year period. 168 patients given cefazolin and 42 patients given vancomycin were identified.

Study Cohort Breakdown



Breakdown of subject cohort based on shunt presence and antibiotic type, with infection totals. Number of subjects in each category listed in parentheses.

Results

Overall infection rate was 5/210 (2.38%). Infection rate for craniotomies performed with a preexisting shunt was 2/27 (7.4%). There were no infections for patients with cefazolin and prior shunt (0/4), while vancomycin and prior shunt had an infection rate of 2/23 (8.70%). Patients receiving cefazolin and vancomycin with no prior shunt had infection rates of 2/164 (1.22%) and 1/19 (5.26%), respectively. Statistical analysis using a Fisher's Exact Test resulted in a 2-sided significance value of 0.056, showing a trend towards significance at the 0.05 level given a greater power.

Conclusions

Patients receiving vancomycin had higher incidence of infection. Moreover, regardless of prior shunt, vancomycin had a similar infection rate (8.70% prior shunt and 5.26% no prior shunt). Larger study size will help explore this problem.

Learning Objectives

By the conclusion of this session, participants should be able:

1. To identify a significant difference in infection rates between vancomycin and cefazolin.
2. To determine if prior shunting has any impact on infection rates following subsequent craniotomy.
3. To elucidate the efficacy of prophylactic antibiotics for craniotomy for tumor in consideration of prior shunt.

References

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