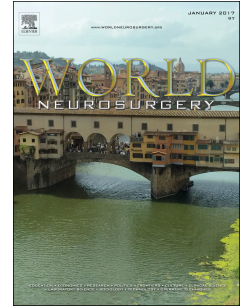


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The Role of Antibiotic Prophylaxis in Shunt Surgery

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# The Role of Antibiotic Prophylaxis in Shunt Surgery

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**Objective** To determine whether antibiotic prophylaxis (AP) can reduce the postoperative infection rate and identify the risk factors for postoperative infection in shunt surgery.

**Methods** In this study, we retrospectively collected information for each patient who underwent shunt surgery at Tianjin Huanhu Hospital from January 2011 to December 2016. According to whether prophylactic antibiotics were administered, the cases were divided into prophylactic antibiotic (AP) and non-prophylactic antibiotic (n-AP) groups to evaluate whether there is a significant difference between the two groups. The risk factors for infection after shunt surgery were analyzed using logistic regression analysis to identify independent risk factors.

**Results** A total of 570 shunt surgery cases were included. The AP group comprised 321 surgical cases, including 21 CSF shunt infections and 2 incision infections, whereas the n-AP group consisted of 249 surgical cases, including 11 CSF shunt infections and 0 incision infections ( $P=0.170$ ). Bacterial cultures indicated that the CSF shunt infections in the AP group included 23 cases, of which 12 (12/23, 52%) were culture-positive, and that the CSF shunt infections in the n-AP group included 11 cases, of which 10 (10/11, 91%) were culture-positive ( $P=0.029$ ). There was a significant difference between the group with a time gap <6 months and the group with a time gap  $\geq 6$  months ( $P=0.038$ ). A logistic regression analysis showed that a history of brain infection ( $P=0.032$ ; OR, 2.588; 95% CI, 1.088–6.158) and previous ventriculostomy ( $P=0.049$ ; OR, 2.426; 95% CI, 1.004–5.866) were independent risk factors for postoperative infection in shunt surgery.

**Conclusions** In our study, a preventive effect of AP on postoperative infection was not observed in shunt surgery. However, AP reduced the rate of positive bacterial cultures. A logistic regression analysis demonstrated that a history of brain infection and

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