



Bacteriologic contamination of suction tips during hip arthroplasty

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We obtained positive cultures from 12 out of 22 suction tips used in total hip arthroplasty performed in operating theaters with conventional ventilation. We recommend that the suction tubes be turned off when not in use and that the tubes be changed during operations.

Approximately 80 percent of the wound contamination during an operation is derived from airborne bacteria, mainly from people in the room (1). Contamination of the suction tip has been described (2). This contamination does not come from the wound (3). We have made bacterial cultures from suction tips during total hip arthroplasty.

Patients and methods

We cultured 22 surgical suction tips used during total hip arthroplasty. We also took samples for culture from 17 surgeons' sleeves close to the glove on the dominant arm. The operations were performed in theaters with conventional ventilation. A prophylactic dose of 2-grams cloxacillin was given at the beginning of the operation. One patient received 1.5-grams cefuroxime instead due to a penicillin allergy. The only wound complications were prolonged wound discharge in 3 patients. The anesthesia lasted on an average 100 (65-150) minutes. The suction tube was not replaced, and was used during most of the operation.

Cultures from the sleeve were transported in Stuart's medium and inoculated on blood agar plates incubated at 35 °C for 48 hours. Anaerobic culture was made with the Gaspak® system. The suction tip was transported in thioglycolate agar

tubes. From tubes with 48-hours' growth, aerobic and anaerobic subcultures were made on blood agar plates. All the isolates were identified by routine methods.

Results

Twelve of 22 suction tips were contaminated (Table 1). None of the cultures from the sleeves were positive.

Discussion

The bacteria isolated corresponded well with the flora of airborne bacteria found with conventional ventilation (1) and in infected hip arthroplasties (4). About 2.2 cubic meters of air per hour is aspirated through a standard suction tube depending on the vacuum (3). During a total hip arthroplasty with conventional ventilation, measurements have shown from 88 to 250 colony-forming units per cubic meter of air (3).

In conventional theaters, we recommend that the suction tip be turned on only when in use and that the tubes be changed during the operation.

Table 1. Bacteria cultured from 22 suction tips. In no case was more than one strain was found

Bacteria	N
Coagulase-negative staphylococci	9
<i>Acinetobacter calcoaceticus</i>	1
Coryneform rods	1
Alpha-hemolytic staphylococci	1
Total	12

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