

The Microbial Flora of In-Use Blood Pressure Cuffs

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Objective

This study was conducted to determine the extent of microbial contamination on blood pressure cuffs used in the operating and recovery rooms of a teaching hospital. The authors suggest that the blood pressure cuff is as yet an unrecognized source of bacterial contamination, which may play a part in the hospital's nosocomial infection rate.

Settings & Patients

As part of this study, new blood pressure cuffs were placed in six operating rooms, and one recovery room. A defined area of the cuff in contact with the patient was sampled before issue and at the end of the operating day for a period of five days. Swabs were plated, incubated and evaluated after 48 hours.

Results

Results indicated that 68 different microorganisms were isolated from the forty-two samples. Seventy-one percent (n=61) were *Staphylococci*. One of the *Staphylococcus aureus* was found to be resistant to methicillin, gentamycin and erythromycin. The remaining 25 organisms were thought to be skin and environmental representatives, although they may pose a risk to certain groups of patients.

Summary

It was concluded that the majority of microorganism isolates in this study posed little risk to healthy patients undergoing surgery. The one case where the gentamycin-methicillin resistant pathogen was identified caused concern, since no patient known to have that pathogen had been in the operating room during the corresponding day of data collection. Therefore, the bacteria would have had to survive for some time on the cuff, implying that the cuff acts as a vehicle of infection. The authors noted that enforcing policies that prohibit the transfer of cuffs outside a room where isolation precautions are in effect is very difficult. In addition, general-use blood pressure cuffs are handled by many health care workers and patients. Because there are often no visible signs of contamination, no disinfecting procedures are employed on the cuff. The potential for cross contamination magnifies, as often patients, who are sources of antibiotic-resistant pathogens, are unknown to the hospital staff. Blood pressure cuffs attached to resuscitation equipment were identified as another source of contamination.

Conclusions

This study emphasizes the need for increased awareness of the potential for cross contamination of patients and health care workers from seemingly innocuous items of general-use hospital equipment, specifically blood pressure cuffs.