Abstract

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Blood pressure cuff as a potential vector of pathogenic microorganisms: a prospective study in a teaching hospital.

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Abstract

OBJECTIVE: To investigate the potential role of blood pressure (BP) cuffs in the spread of bacterial infections in hospitals.

DESIGN: A comprehensive, prospective study quantitatively and qualitatively evaluating the bacterial contamination on BP cuffs of 203 sphygmomanometers in use in 18 hospital units from January through March 2003.

SETTING: A university hospital with surgical, medical, and pediatric units.

RESULTS: A level of contamination reaching 100 or more colony-forming units per 25 cm(2) was observed on 92 (45%) of inner sides and 46 (23%) of outer sides of 203 cuffs. The highest rates of contamination occurred on the inner side of BP cuffs kept in intensive care units (ICUs) (20 [83%] of 24) or on nurses' trolleys (27 [77%] of 35). None of the 18 BP cuffs presumed to be clean (ie, those that had not been used since the last decontamination procedure) had a high level of contamination. Potentially pathogenic microorganisms were isolated from 27 (13%) of the 203 BP cuffs: 20 of these microorganisms were Staphylococcus aureus, including 9 methicillin-resistant strains. The highest rates of contamination with potentially pathogenic microorganisms were observed on cuffs used in ICUs and those kept on nurses' trolleys. For 4 patients with a personal sphygmomanometer, a genetic link was found between the strains isolated from the BP cuffs and the strains isolated from the patients.

CONCLUSIONS: The results of this survey highlight the importance of recognizing BP cuffs as potential vectors of pathogenic bacteria among patients and as a source of reinfection when dedicated to a single patient, emphasizing the urgent need for validated procedures for their use and maintenance.

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