P133

BATTERIOLOGIA

TOURNIQUETS CONTAMINATED BY MICROORGANISMS: HEALTH HAZARDS?

C. Crocillà [1], G. Amarù [1], C. Solimine [1], E. Peyronel [1], P. Fresi [1], S. Comini [2], F. Menotti [2], R. Sparti [2], M.C. Cuomo [2], V. Allizond [2], A.M. Cuffini [2], G. Banche [2]

[1]*Chemical clinical and microbiological analysis laboratory, Infermi Hospital, ASL TO3, Rivoli, Turin*

[2]*Department of Public Health and Pediatrics, Microbiology Section, University of Torino, Turin*

INTRODUZIONE

Tourniquets, routine medical devices, are generally used for multiple patients without being disinfected, with a consequent increase in the risk of microbial cross-contamination. In this study, the microbial load present on tourniquets used in sampling centers and hospital wards of ASLTO3 (Turin) was determined to evaluate the introduction of disposable devices as a potential preventive solution to be adopted in clinical practice.

METODI

Several tourniquets (new disposable, reused, treated with a disinfectant for topical use or with soap and water) were subjected to a quali/quantitative microbiological analysis. Two parts were analyzed for each tourniquet: the end, corresponding to the area in contact with the operator's hands, and the center, corresponding to the area in contact with patient's arm. On the surface of each portion a sampling was carried out using sterile swab plated on agar. Each grown colony was identified by morphological, microscopic and biochemical analysis.

RISULTATI

Coltural analysis showed the growth of Bacillus spp (megaterium and cereus), Micrococcus luteus, Staphylococcus spp (haemolyticus, warnerii and epidermidis), Corynebacterium jeikeium, Kocuria kristinae and environmental molds. There were no differences in the type of isolated microorganisms on the two portions of the same tourniquet (operator's hand area and patient's arm area), although about 50% of the tourniquets showed a much higher load in the portion in contact with operator's hands. On tourniquets analyzed after disinfection or cleaning, the same microorganisms present on tourniquets reused more times were detected, but with a 100-fold lower load and similar to that obtained on new devices.

CONCLUSIONI

Unlike other author reports, the microorganisms isolated in the present work are commensal and non particularly pathogenic, except for immunocompromised subjects. These data also suggest that the use of disinfectants or detergents can contribute to a reduction in the number of contaminants, which is comparable with that found on disposable tourniquets. Furthermore, we highlighted that a correct hand washing associated with an adequate gloves replacement by the operator can be a valid method to reduce the microbial load. In conclusion, by applying decontamination and professional training guidelines/programs in clinical contexts, results similar to those that would be obtained with the use of disposable devices could be achieved, but with a considerable saving for NHS.