

Results: 122 MRSA patients were treated according to the 5 day protocol. In patients colonized in only one location (nose, throat or perineum) ($n = 35$), the decolonization protocol proved to be effective in 74.3% of cases. In patients colonized in multiple locations ($n = 44$) and/or with risk factors ($n = 56$), the treatment was successful in respectively 54.5% and 57.1% of the patients. Most patients (81.4%) became negative after just one attempt. Overall, 67% of the carriers remained negative up to one year of follow up.

Discussion and/or Conclusion(s): The success rate of MRSA decolonization is just below 70%, even with patients estimated to have a low chance of success included. Therefore, a universal rather than a targeted MRSA decolonization strategy seems to be justifiable.

ID: 4833

Are ATP and protein suitable tests for benchmarking cleaning of surgical instruments?

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Background: Use of adenosine triphosphate (ATP) and protein tests have increased in Central Supply Sterilizing Department, however, its use is not completely standardized and requires a validation of benchmark according to the instrument design.

Aim(s)/Objective(s): To determine if Clean-Trace ATP and protein (3M) are suitable tests for benchmarking cleaning of surgical instruments.

Method(s): Six orthopaedic flexible drill bits (FDB) were contaminated with tryptic soya broth containing 5% sheep blood and *Staphylococcus aureus* (10^8 cells/mL), allowed to dry for 4 hours and subjected to pre-rinsing, manual or automated cleaning. ATP present on the instrument surface and lumen, surface protein (50 µg – qualitative test), and bacterial contamination (Colony Forming Units) were determined after each step. The experiment was repeated five times.

Results: The protein test was insensitive failing to detect 40% of the FDB subjected just to pre-rinsing required cleaning, presenting them as clean or just requiring re-rinsing, despite ATP readings above 20,000 RLU. ATP levels and microbial load significantly decreased following either manual or automatic cleaning ($P < 0.001$). The median values for surface ATP were 10,780, 73 and 18 RLU for pre-rinsed, manually cleaned and automatically cleaned instruments, respectively. Similar results were obtained for luminal ATP. The microbial load on pre-rinsed instruments was $\text{Log}_{10} 7.8492$ which decreased 3 logs with manual cleaning, and automatic cleaning removed all microbial contamination ($>7.8 \text{ log}_{10}$ reduction).

Discussion and/or Conclusion(s): The protein test used is unsuitable for point-of-use testing to determine if instruments are clean. ATP demonstrated suitability for point-of-use test, however further analysis of RLU variability is needed to validate a benchmark.

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How are Italy's bone marrow transplant units decontaminated in case of multi-drug resistant organisms? National survey by the Nurses' Group of GITMO

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Background: Infections by multi-drug resistant organisms (MDRO) represent a huge problem in Bone Marrow Transplant (BMT) units and decontamination has turned to an actual topic.

Aim(s)/Objective(s): The Board of Nursing Referents Section of the Scientific Society "Italian Group of Bone Marrow Transplant" (GITMO)

has the aim to detect and improve hidden procedures of daily hospital routine.

Method(s): After a literature review, a questionnaire composed by 72 questions was sent to all 100 Italian BMT centres. From 21st February until 31st March 2016, the principal BMT nurse of each centre filled out the questionnaire on a Google Drive platform. The main domains were six: infection control, screening, isolation, decontamination, collaboration and communication.

Results: Seventy-two centres divided into 50 adults, 14 paediatrics and 8 mixed departments, answered to the questionnaire. Forty-eight units are composed by a BMT centre and a haematology division, 24 are only BMT centres. Patient's rooms colonised by MDRO are cleaned twice a day in 87% of cases and left as last room to clean in 92% of units. Cleaning personnel gets in 76% of centres a specific education on MDRO decontamination and is in 91% of the units throughout composed by the same cleaners. Microbiological controls after final decontamination take place in 57% of BMT departments. Particle count, plates and swabs are the most common procedures to control the effectiveness of decontamination.

Discussion and/or Conclusion(s): The national survey gives a snapshot of the current situation in Italy. Many procedures could be improved and standardised in order to enfeeble MDRO in BMT units.

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Evaluation of disposable pre-impregnated wipes versus a standard two-step protocol for cleaning and disinfection of high-touch surfaces in intensive care

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Aim(s)/Objective(s): To evaluate the effectiveness of pre-impregnated wipes in reducing environmental bacterial burden when compared to the current standard protocol (SP).

Method(s): High-touch surfaces in a 12-bed Intensive Care Unit were cleaned and disinfected either by the daily standard two-step protocol, application of an alcohol-based detergent Keradet (Kiehl), followed by a chlorine-based disinfectant Antisapril 2% (Angelini), or by using disposable wipes impregnated with quaternary ammonium compounds/Biguanide (Clinell Universal Wipes, GAMA). Effectiveness in reducing microbial burden of high touch near-patient surfaces was assessed by a contact plate method on five sites immediately pre- procedure and post- at 0.5, 2.5, 4.5 and 6.5 hours. The study was repeated five times over three months, sampling 11 beds for each protocol (560 sampling sites).

Results: Pre-impregnated wipes demonstrated a decrease in mean Total Bacterial Count (TBC) from 43 to 16 CFU/24 cm² (63.9%) after 0.5 hours vs. a reduction from 27 to 16 CFU/24 cm² (40.3%) for the SP. In subsequent 2.5, 4.5 and 6.5-hour tests, mean TBCs decreased respectively by 64.1%, 65.6% and 74.1% with disposable wipes, while for SP methods, TBCs showed increases of 8.3%, 20.7% and 24.3%.

According to the Italian hygiene standard (ISPESL, 2009), when using pre-impregnated wipes 14 of 180 sites of sites showed TBC >50 CFU/24 cm² (Hygiene Failures) whereas for SP 32 of 176 sites were classed as failed (Chi squared, $p < 0.05$).

Discussion and/or Conclusion(s): Disposable wipes used on near-patient inanimate surfaces provide a more effective alternative to the usual two-step procedures, considering the potential residual activity.

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Dry biofilms: implications in clinical environmental disinfection

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Background: Clinical surfaces may become contaminated with microorganisms. Cleaning and disinfection are crucial interventions