

ORAL PRESENTATION

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# O062: Contamination of umbilical catheters by *Staphylococcus epidermidis* in neonatology: is there a link with a change in the standard of care?

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## Introduction

The presence of *Staphylococcus epidermidis* (SCE) on umbilical venous (UVC) or artery catheters (UAC) suggests defects either in catheter care or in hand hygiene compliance.

## Objectives

The aim of this study was to assess colonization of UVC and UAC with SCE before and after care practice of such catheters was changed.

## Methods

This observational before-after study was conducted in the neonatology unit of HUG between January 2002 and December 2012. SCE-colonization rates before and after protocol change in August 2011 was compared by chi-square test and Poisson regression model. In the new protocol, UVC and UAC were not covered by a dressing but left at air. All neonates with the following risk factors were eligible: gestational age [GA] <32 weeks, birth weight <1500g, invasive device, surgery, use of parenteral nutrition, systemic antibiotics.

## Results

In total, 2832 neonates were analyzed. Mean birth weight ( $\pm$ SD) was 2179g ( $\pm$ 970) and 213 neonates had GA < 32 weeks (7.5%). SCE colonization on UVC and UAC was 54/1070 (5.1%) and 16/435 (3.7%), respectively. Colonization on UVC was significantly higher after procedure change in the univariate (53.7/1000

catheter-days versus 9.6/1000;  $P < 0.001$ ) as well as in the multivariate analysis adjusting for GA, birth weight, and multiple pregnancy (IRR [95% CI]: 2.4 [1.4-4.3];  $P = 0.003$ ). Colonization of UAC was significantly higher after procedure change in the univariate (43.5/1000 catheter-days versus 7.9/1000;  $P < 0.001$ ) as well as in the multivariate analysis (IRR [95%CI]: 5.0 [1.7-15.2];  $P = 0.004$ ). No association was found for catheter-related bloodstream infection.

## Conclusion

Leaving umbilical catheters exposed to air rather than protected by a dressing may result in significant colonization with SCE. Larger studies must confirm our findings and test the hypothesis whether such practice promotes bloodstream infection.

## Disclosure of interest

None declared.

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