



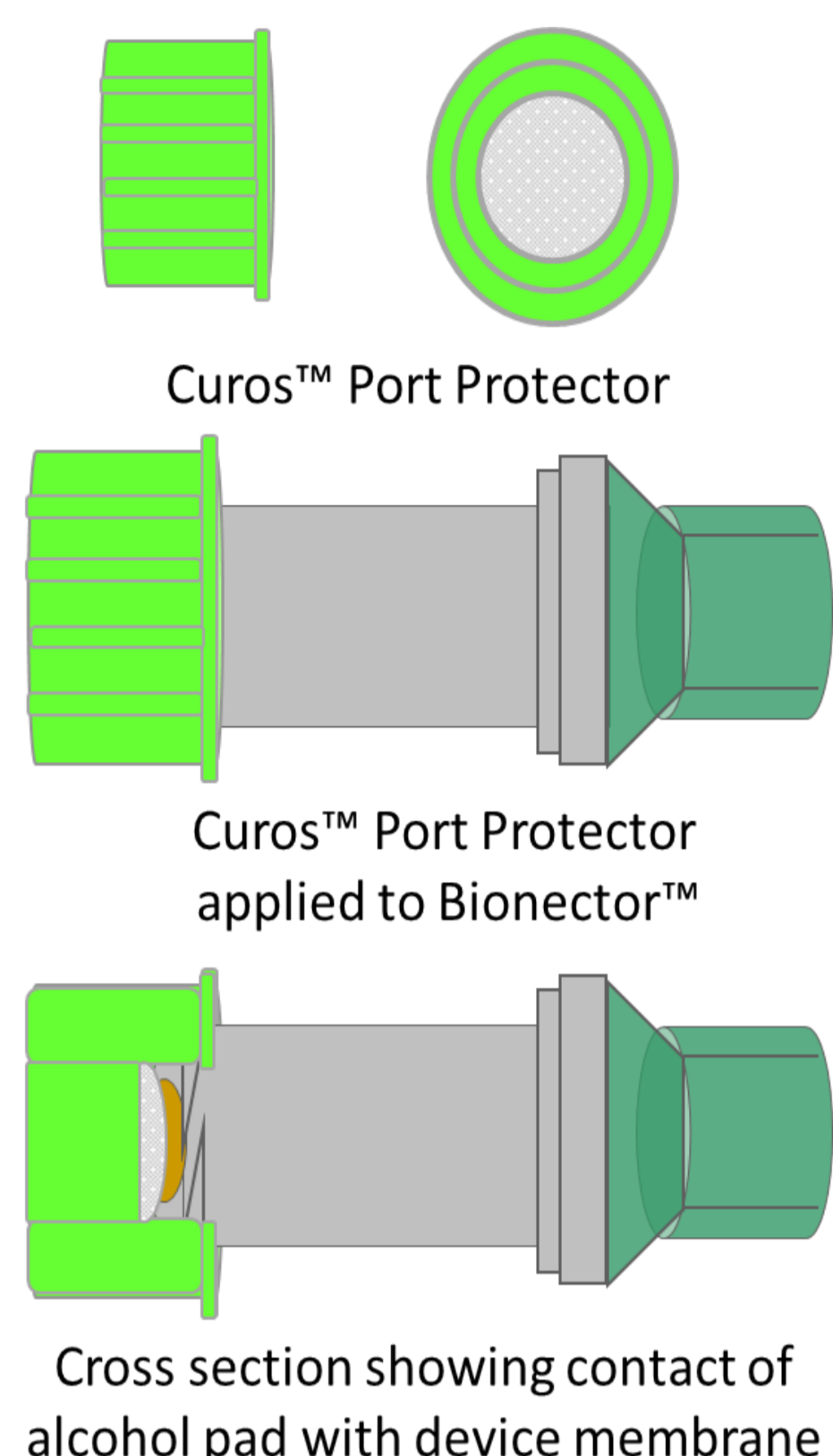
The effect of 70% isopropyl alcohol port protection on central venous catheter related infection in patients on home parenteral nutrition

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Introduction

Safe and reliable central venous access is essential for the delivery of home parenteral nutrition (HPN). Catheter hub contamination is key in the development of central venous catheter related bloodstream infection (CRBSI). Effective disinfection relies upon a number of variables; contact time of disinfectant, method of disinfection, and for the disinfectant to have dried before accessing the system. Port protection caps could eliminate these variables as well as providing a physical barrier to the hub during infusion free periods. This study aimed to assess the effect of a 70% IPA port protector (Curos[®]) on CRBSI rates and organisms responsible for infection in HPN patients, and evaluate patient acceptability and compliance with the product.



Method

The port protector was demonstrated to HPN patients (n=285) during routine clinic visits. Patients were asked to continue actively disinfecting the hub with 2% chlorhexidine in 70% isopropyl after removal of the Curos™, immediately before accessing the system. All patients used Vygon Bionector™. Infection rates and organisms responsible for the year preceding introduction of the Curos™ were compared with infection rates in the following year that the product was gradually introduced. Patient satisfaction was determined at follow up. Compliance was determined by visual confirmation and stock requested from homecare provider

Results

The monthly infection rate pre Curos™ ranged from 1.21-2.12/1000 catheter days, (mean 1.36). In the implementation year it was 0.23-1.18/1000 catheter days (mean 0.47). The difference was significant $p < 0.001$. See Figure 1. The number and type of organisms responsible is shown in Figure 2. Only 2 patients (0.7%) declined using product, 1 who doesn't use needlefree connectors (26 yrs HPN, 1 CRBSI), and 1 who "couldn't see the point" (14 yrs HPN, 0 CRBSI). 1 patient (0.4%) found it uncomfortable and difficult to apply. All others (99.6%) were extremely happy with the product. Only 2 (0.7%) patients were non-compliant.

Figure 1. Infection rates pre and post introduction of Curos™

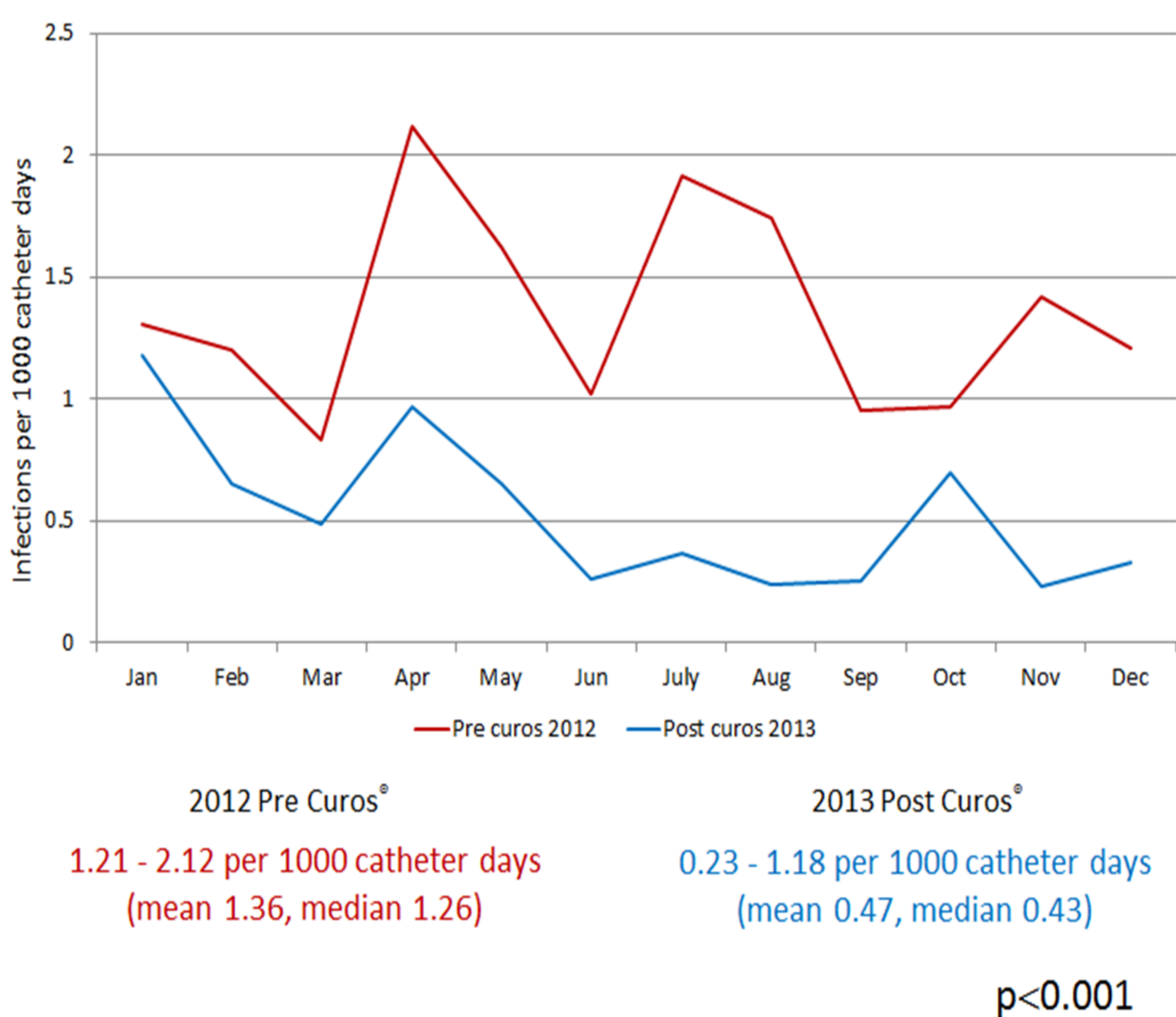
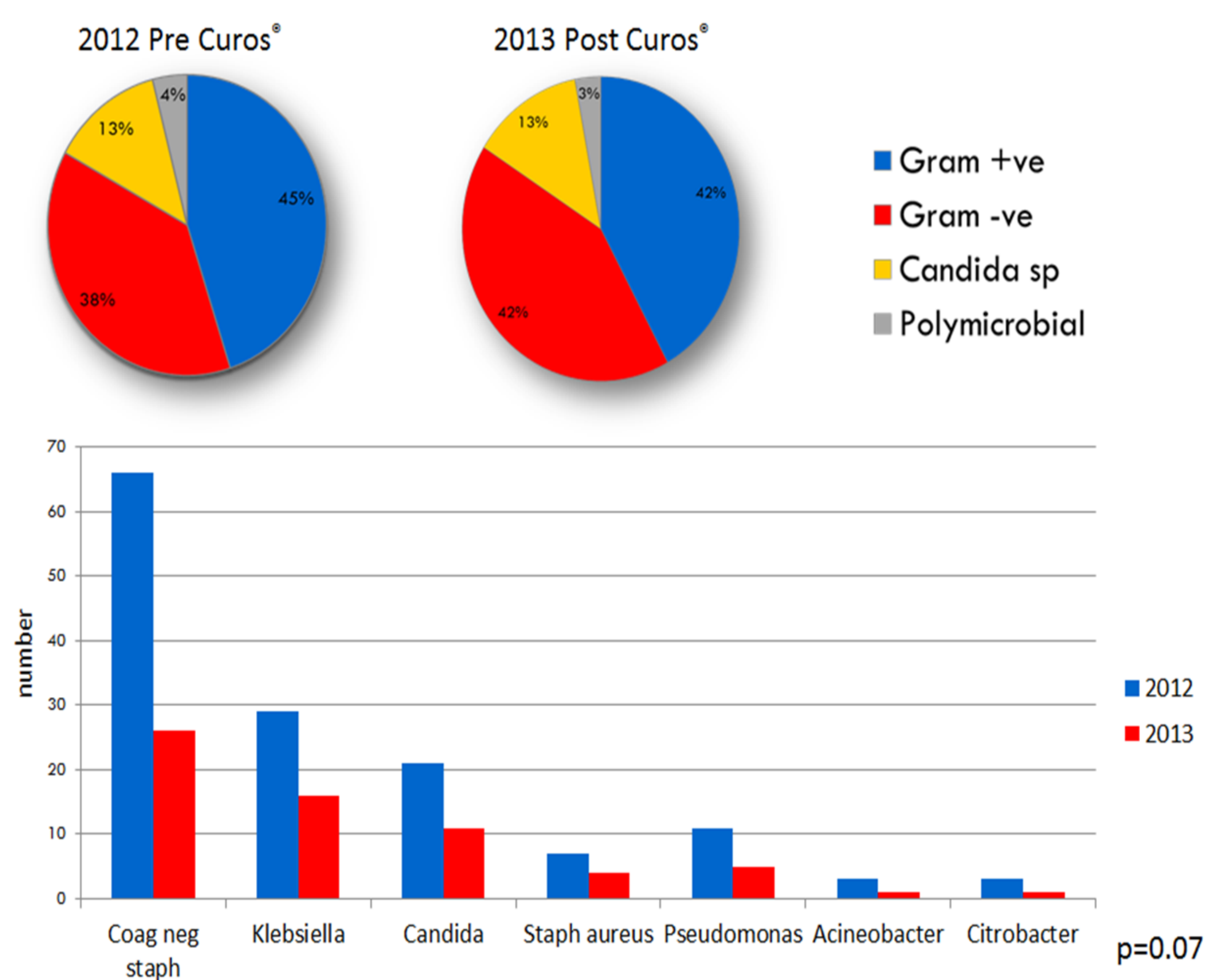


Figure 2. Number and type of organisms responsible for CRBSI



Conclusion

The introduction of passive disinfection with a 70% IPA port protector was associated with a significant reduction in CRBSI. As patients were instructed to also actively disinfect with 2% chlorhexidine in 70% IPA it is not clear whether the efficacy of the product was due to the continuous contact with isopropyl alcohol or the physical protection the protector affords.

Disclosures:
None



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