

Results: When exposed to the EMLA solution, there was a very rapid and significant reduction of all strains within the first hour ($p < 0.01$). SP and EC were almost immediately killed ($p < 0.05$), PA was killed within 2 hours ($p < 0.01$) and SA was killed within 3 hours ($p < 0.01$). A test with Tween 20 alone as growth control showed no antibacterial effect towards any of the tested bacteria (not shown).

Conclusions: As a positive side effect to the analgesic effect, EMLA is a powerful antibacterial cream, which may reduce the risk of infectious spread and bacteraemia when used for debridement of wounds.

References:

- 1: Miller MA, Shelley WB. Antibacterial Properties of Lidocaine on Bacteria isolated from Dermal Lesions. Arch Dermatol 1985;121:1157-9.

V 55-3

Use of Dermacyn[®], a new antiseptic agent, for the local treatment of diabetic foot ulcers

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Introduction: Infection is, with peripheral vascular disease, the most important prognostic factor for the risk of amputation in diabetic foot. Use of antibiotic therapy, surgical treatment of deep infection, antiseptic dressing is mandatory. Local antiseptic agents are widely used but there are few data about their efficacy.

Aim of the study: The evaluation of effectiveness of a new antiseptic agent, Dermacyn, a superoxydized water, as local treatment of infected diabetic foot ulcers. The global treatment was comprehensive of general antibiotic therapy, surgery, weight bearing relief.

Materials and methods: 220 consecutive diabetic patients have been enrolled for the study from November 2004 to March 2005. Were enrolled patients with stage II/III B-C-D ulcers using the Texas University Classification (T.U.C.). The localization of the lesion was below the ankle on the dorsal or plantar surface of the foot. 110 patients were treated in the Dermacyn group (D) and 110 in the control group (C) in which iodopovidone dressing was used. The two groups were matched for age, duration of diabetes, class of ulceration. All the patients with peripheral vascular disease were referred for the revascularization using endovascular technique or by-pass surgery. All patients were treated surgically. In patients with T.U.C. III B/D lesion surgical treatment of bone infection was carried out (esostectomy-minor amputations). At the time of the enrollment and every month microbiological specimens were taken until surgical closure treatment. Local treatment was carried out daily using gauze with Dermacyn (D group) or gauze with iodopovidone (C group).

Results: All the patients had clinically and microbiologically infected ulcers. The mean follow up was 94.8 days (range 35-210). The mean number of microbiological agents was 3.2 in D

group and 3.3 in C group. At the surgical time 75 % of ulcer in the D group had a negative microbiological specimen vs 48 % of ulcer in the C group ($p < 0.005$). No adverse effects were noted in the D group while 15 patients showed local reaction to iodopovidone in the C group.

V 55-4

Methicilin-resistant Staphylococcus aureus – problem in health care

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Introduction: At present, MRSA infection is a grave burden for health-care systems; it is associated with considerable morbidity and mortality and poses economic problems. It is our intention to draw attention by our work to the economic differences in the treatment of that infection.

Methods: The share of MRSA in all nosocomial staphylococcus infections is high globally and MRSA infection stands high among all nosocomial infections. The Czech Republic reports the incidence of 3-10 %. According to the latest data from the National Reference Laboratory for Antibiotics, the Czech Republic exceeded in 2004 the 10 % boundary. MRSA was identified in 2003 at the 1st Surgical Department in two patients only, whereas 27 patients were affected in 2004. Nine of them had local defects and the infection was verified in the other patients in hemocultures, from nasal vents, etc. s. Figure 1. Numbers of Patients with General and Topical Signs of MRSA

Results: The basic measure in persons with suspected MRSA infection of the skin and soft tissues is the incision and drainage of abscesses. Surgical and topical therapy can result in eradication, especially in case dressing with silver ions or a superoxydized disinfection solution are used. The price of those products is much lower than prices of daily doses of antibiotics. We attempted to assess the financial costs of defects treatment in our patients. Success of the therapy is high.

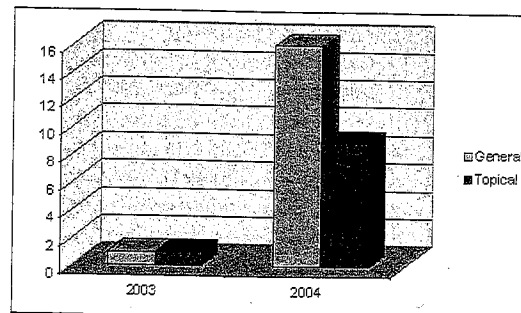


Figure 1 V 54-4.

Table 1 V 54-4.

Age	Number of Patients
up to 30 years	3
31-40	3
41-50	2
51-60	6
61-70	5
71-80	6
over 80 years	2

Conclusions: Undoubtedly, the incidence of MRSA infections will grow. It is absolutely necessary to take preventive measures. It is always good to differentiate between general infections and topical infections and select an optimal therapy. The economic requirements for the treatment of MRSA are evident. It is a good idea to consider the benefits of topical treatment, especially when economic aspects are taken into account because those aspects are reflected more and more in the daily routine of health-care professionals.

V 55-5

The development of an experimental in vitro model to study the interaction of microorganisms with human skin

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Aim: *Candida albicans* is a member of the normal oral microflora of humans and in suitably debilitated individuals may be associated with infection and impaired wound healing. The specific objective of this study was to examine tissue invasion and gene expression by specific strains of *C. albicans* in an in vitro model of human skin, using reconstituted human epithelium (RHE; SkinEthic Laboratories).

Methods: *Candida albicans* isolates (n = 19) were recovered from a range of oral conditions, including oral candidosis, oral cancer and healthy mucosa. Standard inocula of these isolates were used to infect the RHE. Infected tissues were incubated for 24 h and then one half of the tissue was fixed in paraformaldehyde. The remaining portion was retained in RNA-Later (Ambion) solution at -20 °C. RHE tissue sections (20 µm) were then stained with concanavalin A-Alexa 594 conjugate and examined by confocal laser scanning microscopy (CLSM). RT-PCR was used to assess expression of putative candidal virulence genes (secreted aspartyl proteinases and phospholipases) using RNA extracted from the frozen tissue.

invasion and morphology. Highly invasive strains were associated with CHC origin, hyphal presence and extensive colonisation of the tissue surface. The expression of proteinase and phospholipase genes was detected with all isolates, with no obvious correlation evident with infection type.

Conclusions: The RHE offers a suitable and reliable in vitro model to study the interaction between the skin and microorganisms. This model is amenable to CLSM and genetic analysis and may be of future use in studies into the role of bacteria in impaired human wound healing.

V 55-6

Retrospective evaluation of versajet as a debridement instrument

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Study aims: The primary aim of the study was to evaluate the safety and efficacy of Versajet (Trademark of Smith and Nephew) on the basis of clinical experience at the University of Medicine and Dentistry of New Jersey (UMDNJ) over a 12-month period in 2003. A secondary goal was to evaluate the potential cost savings associated with Versajet.

Methods: Retrospective case review including all patients who had an excisional debridement during 2003 and for whom Versajet was explicitly used. As a control, a sample of patients whose wound was debrided by conventional surgical methods was selected. Wound types were matched as closely as possible with the wounds in the Versajet group.

Results and conclusions: The number of debridement procedures per wound was lower in the Versajet group (on average 1.2 versus 1.9 with conventional surgical methods; p = 0.002). Debridement time was similar in the two groups. The observed differences in procedure time are not statistically significant. The pooled mean is 64.7 minutes. Cost savings with Versajet. The resource saving associated with the use of Versajet in this study was approximately \$ 1,941 per patient. Thus, over a year the saving could exceed \$ 200,000.