

PROSPECTIVE RANDOMIZED STUDY FOR ERADICATION OF MRSA WITH POLIHEXANIDE CONTAINING BIOCELLULOSE DRESSING COMPARED WITH POLIHEXANIDE CONTAINING WOUND SOLUTION

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Introduction:

Antimicrobial treatment of wounds with MRSA has different strategies. There are no data, if the continuous treatment or the short time treatment is successful. The aim of the study was the successful eradication of MRSA in patients suffering on pressure ulcers with a polihexanide containing Hydro-Balanced biocellulose dressing** compared with cotton gauze moisturized with a polihexanide containing wound solution*.

Material and Methods

The study was designed as prospective randomized controlled study on patients suffering on pressure ulcers with MRSA.

One group was treated with polihexanide wound solution* and cotton dressing (Group I).

The second group was treated with polihexanide containing HydroBalanced biocellulose dressing** for continuous treatment (Group II).

In each group 15 patients were included. The documentation was performed with digital computer assisted program "Wound Healing Analysing Tool" (W.H.A.T.). Swaps were taken with the start of the study, after 1 week and after 2 weeks.

Results

In group I (cotton gauze moisturized with polihexanide wound solution) after 1 week were 6 patients from 15 free from MRSA (40%), after 2 weeks 10 of 15 patients (66.67%; $p < 0.05$) (fig 1 and table 1).

In group II (polihexanide containing HydroBalanced biocellulose dressing**) after 1 week were 13 patients free from MRSA (86.67%) and after 2 weeks all swabs were negative (100% eradication rate, $p < 0.05$) (fig 1 and table 2).

In group II (polihexanide containing HydroBalanced biocellulose dressing**) the granulation tissue formation after 1 week and also after 2 weeks was higher, than in group I (cotton gauze moisturized with polihexanide wound solution*).

* polihexanide wound solution: Prontosan[®], B Braun

**HydroBalanced biocellulose dressing: Suprasorb[®] X+PHMB, Lohmann & Rauscher

Conclusion

Continuous antiseptic treatment seemed to be more efficient, than the short time wound decontamination during the dressing change.

For the clinical routine it should be also a positive effect, because the time of decontamination with polihexanide (between 10-15 min) often can't realize. The effect of eradication can be achieve much earlier with the continuous treatment concept.

Case	Swab	Eradication week 1	Eradication week 2	Control 1	Control 2	Control 3
1	++	No	Yes	+	-	-
2	+	Yes	Yes	-	+	-
3	+	Yes	Yes	-	-	-
4	++	No	No	+	+	+
5	++	Yes	Yes	-	-	-
6	++	No	Yes	+	-	-
7	++	No	Yes	-	-	-
8	+	Yes	Yes	-	-	-
9	++	No	No	+	+	+
10	++	No	No	+	+	+
11	+	Yes	Yes	-	-	-
12	++	No	No	+	+	+
13	+	No	Yes	+	+	-
14	++	Yes	Yes	-	-	-
15	++	No	No	+	+	+

Tab. 1 Eradication of the wound by cotton gauze moisturized with polihexanide-containing solution

Case	Swab	Eradication week 1	Eradication week 2	Control 1	Control 2	Control 3
1	+	Yes	Yes	-	-	-
2	++	Yes	Yes	+	-	-
3	++	No	Yes	-	-	-
4	++	Yes	Yes	-	-	-
5	+	Yes	Yes	-	-	-
6	++	Yes	Yes	-	-	-
7	++	Yes	Yes	+	-	-
8	+	Yes	Yes	-	-	-
9	++	Yes	Yes	-	-	-
10	++	Yes	Yes	-	-	-
11	+	Yes	Yes	+	+	-
12	++	Yes	Yes	-	-	-
13	++	No	Yes	+	-	-
14	+	Yes	Yes	+	-	-
15	++	Yes	Yes	-	-	-

Tab. 2 Eradication of the wound by the polihexanide containing HydroBalanced biocellulose dressing**



Fig. 1 MRSA eradication in the wound