MACROPHOTOGRAPHIC ANALYSIS OF THE BUTTON HOLE INCANNULATION SITE: EFFECT OF A SILVER MEDICATION.

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Introduction:

The button hole incannulation technique is based on the insertion of a dull needle into the exact same subcutaneous tunnel at every dialysis session. This incannulation technique is less traumatic but increases the risk of infection of the fistula. Accurate skin desinfection and removal of the superficial fibrin thrombus at the incannulation site seem to be very important for the prevention of infectious complications. A medication containing silver might reduce local bacterial growth and by this the risk of infection.

Objectives:

The aim of the study was to analyze the effect of two types of fistula compression bandages, standard medication versus silver containing medication, with respect to signs of infections measured by macrophotography.

Standard Medication

Standard fistula compression bandage without silver (Betafix, Emodial Inc., Ferrara, Italy)

Silver Medication

Fistula compression bandage containing a silver pad (Nova Betafix AG Silver, Ferrara, Italy)

Methods:

Type of study: **Single centre observational study.**

Study population: **12 adult haemodialysis patients who are utilizing the "button hole" incannulation technique for the placement of dull dialysis needles.**

Inclusion criterias:

- **Arterio-venous fistulas without clinical signs of infection for at least three months.**
- **Continous use of the "button hole" incannulation technique for at least three months.**
- **Written informed consent.**

Intervention: **Application of a haemostatic fistula compression bandage containing a silver pad.**

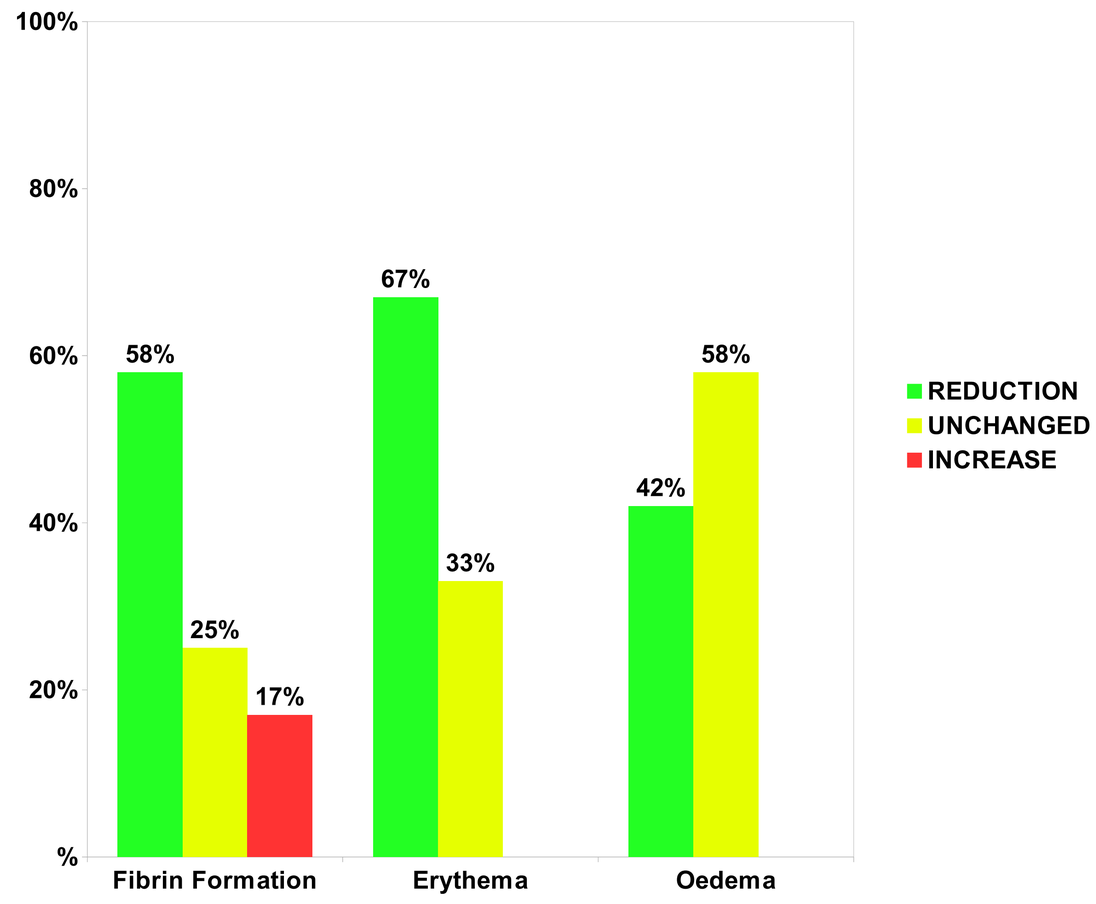
Macrophotographic confront of a standard fistula compression bandage and a silver containing compressione bandage after 12 haemodialysis sessions with respect to superficial fibrin thrombus formation, oedema and erythema.

Materials

- **Photocamera: Samsung SM-910F (resolution 16 MPx, aperture of the diaphragm f/2.20, focal length 4.8mm**
- **Skin desinfection: Chlorhedixine digluconate 0,10%**
- **Application of standard fistula compression bandage for 12 haemodialysis sessions followed by application of a fistula compression bandage containing a silver pad for 12 dialysis sessions.**

Results:

The silver pad medication was well tolerated. The application of the silver pad at the incannulation site resulted in a reduction of fibrin thrombus formation, local oedema and erythema.



Conclusions:

The silver medication reduces inflammatory signs at the button hole incannulation site, apparently due to the local antibacterial action of silver. Thereby, long-term use of the silver pad might decrease the incidence rate of fistula infection and need of antibiotics.