Effect of Hyaluronate-Iodine-complex in Skin Grafting of Chronic Infected Wounds

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INTRODUCTION

Autologous skin transplantation is still problematic in treatment of chronic infected wounds. However, skin transplantation may markedly reduce healing time interval and total treatment cost. The current therapy is based on a long application of antiseptics followed by skin transplantation.

METHOD

All patients were hospitalised. The treatment started with necrectomy and daily application of HI complex to ulcers. The wound bed was treated with HI complex several weeks before transplantation. When wound surface was prepared for grafting, the wound was covered by meshed dermoepidermal skin graft.

Case No 1: 77-year-old polymorbid man
Diagnosis: Chronic venous infected ulcers of both lower extremities for 4 years. Polymorbid patient (cardiac, metabolic, renal, skeletal systems).

Day 1 – cultivation: Pseudomonas aeruginosa, Escherichia coli, Candida albicans → ATB therapy; → necrectomy
Day 12 – skin transplantation with dermoepidermal meshed graft
Day 32 – complete healing
Dressing change with HI complex every day.

Case No 2: 66-year-old woman
Diagnosis: Chronic venous ulceration of left lower extremity with infection for 4 years. Polymorbid patient (cardiac, renal, metabolic systems).

Day 1 – cultivation: Coliform mixture, Proteus mirabilis, Pseudomonas aeruginosa → ATB therapy
Day 23 – necrectomy
Day 34 – skin transplantation with dermoepidermal meshed graft
Day 37 – cultivation – Pseudomonas aeruginosa
Day 42 – cultivation – Pseudomonas aeruginosa
Day 46 – complete healing of ulcers
Dressing change with HI complex every day.

Case No 2: 63-year-old woman

Day 1 – cultivation: Coliform mixture, Proteus mirabilis; → ATB therapy; → necrectomy
Day 5 – cultivation – Coliform mixture, Proteus mirabilis
Day 25 – autotransplantation with the dermoepidermal meshed graft
Day 26 – cultivation – Pseudomonas aeruginosa, Acinetobacter
Day 42 – complete healing of ulcers
Dressing change with HI complex every day.

COMMENTARY AND CONCLUSIONS

The effect of HI complex was studied in 3 patients with chronic venous ulcer gr. 3 - 4 (4 - 12 years before our treatment). In all patients, 24 hours after transplantation, the graft did not adhere to the wound surface completely. The administration of dressing containing HI complex led to a successful graft fixation within next 48 hours. Subsequent complete wound healing was apparent in spite of persistent infection within 28 days.

We can conclude that HI complex is promising method of dressing of the wounds treated by autologous skin transplantation. However, randomized study is necessary to proof this observation.

Up to date, we used this method in 14 patients. The effect of hyaluronate-iodine complex in the skin grafting of infected wounds was excellent in 13 patients. This results demonstrate, that the success in more than 90% of cases can be achieved, in comparison with 50% of the current therapy, when the antiseptic solutions and skin grafting are used.

1. Complete wound healing of ulcers in spite of infection by dermoepidermal graft
2. Disappearance of pain within several days after skin transplantation
3. Financial benefit of treatment
4. Improvement of quality of life

BENEFITS

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