The use of dermal substitute Matriderm in loss of tissue: functional outcome and aesthetic

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**Aim:** The Matriderm is a bidimensional matrix made of collagen fibrils and elastin, used to support the regeneration of the dermis. The collagen is extracted from bovine dermis and contains the dermal collagens I, III and IV, while, elastin is instead obtained by hydrolysis of bovine nuchal ligament. The product only allows efficient reconstruction of full-thickness skin defects using a single procedure over skin graft.

**Methods:** In this randomized study Matriderm™ was used in 21 patients with deep third degree burns after escarectomy, in combination with dermal-epidermal graft partial thickness or in the conventional manner with only a partial thickness graft. We evaluated the skin elasticity, the maximum extension of skin, the immediate retraction with Courage-Khazaka cutometer and texture with tonometer.

**Result:** After 10 days, engraftment of the graft was similar in two group of patients (p=0,015). The evaluation with Courage-Khazaka cutometer of elasticity, after 90 and 120 days, documents an increase of elasticity (27,5% p=0,04), the maximum extension (33%, p=0,03), immediate retraction (30%, p=0,01) and important reduction of tissue texture.

**Conclusion:** in two areas treated the healing time was the same with important improvement in functional and aesthetic scars in the areas treated with Matriderm™.