

Low-intensity shock wave therapy (Li-ESWT) in the management of wound healing following Fournier`s gangrene – a new approach

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Introduction

Fournier`s gangrene is an aggressive and frequently fatal polymicrobial soft tissue infection of the perineum, peri-anal region, and external genitalia. It is an anatomical sub-category of necrotising fasciitis with which it shares a common etiology and management pathway. It requires immediate radical surgery with complete removal of affected tissue. Once the patient is stabilized and the wounds are clean, postoperative management includes mesh-graft and skin-flaps. Based on previous results for chronic ulcers, we started to use Li-ESWT in the management of wound healing of Fournier`s gangrene.

Material & Methods

Li-ESWT was applied three times weekly (Monday, Wednesday, Friday) 2000 shock waves at 3 Hz with an Energy density of 0.25 mJ/mm² using the electromagnetic device Duolith SD1 ultra (Storz-Medical, Taegerwilen, Switzerland) without anesthesia. We treated a total of 8 patients at two centers (Heilbronn, Manila).

Results

Li-ESWT was used for the following indications: (i) 3 patients were treated after secondary healing of a skin flap. In all cases the wound-healing was promoted within 6 weeks and no further surgery was necessary. (ii) 2 patients were treated primarily with good success within 6 weeks and the remnant wound was covered with mesh-graft. (iii) 3 patients were treated exclusively by Li-ESWT with complete restoration of penile and scrotal tissue following 8-12 months.

Discussion

One advantage of ESWT for wound healing represents the fact, that the effect can be seen directly unlike in other urological indication such as Peyronie`s disease, Erectile Dysfunction, LUTS. The cases of complete restoration of the local skin distinguishing between scrotal and penile skin might indicate, that stem cell activation might be the underlying mechanism. In conclusion, the positive effect of Li-ESWT on wound healing can be also very interesting for urologists dealing with secondary wound healing, such as in the postoperative management of Fournier`s gangrene

Technology: Focused Shockwave

Device and Manufacturer: Storz-Medical, Taegerwilen, Switzerland

COI: Jens Rassweiler is Consultant of Storz-Medical