Challenge

- Wound healing is complex: excessive inflammation, angiogenesis and dermal fibroblast function significantly contribute to scarring; additionally, scar hyperpigmentation negatively impacts scar quality

- Scars cause serious cosmetic and functional problems that can be emotionally and physically debilitating and place heavy financial burdens on healthcare systems

- There are currently no clinically tested or licensed interventions/pharmaceuticals available to reduce scarring or scar hyperpigmentation

Solution

- Salbutamol (Sal), delivered topically, ameliorates excess deposition of scar tissue and reduces hyperpigmentation post trauma, significantly improving scar appearance

Fibrotix: Significant Reduction in Skin Scar Area, Fibrosis, Hyperpigmentation and Improved Appearance

- Reduces skin scar area and hyperpigmentation post wound in vivo

- Uses Salbutamol a safe, widely used, approved therapeutic

- Strong intellectual property position
Fibrotix: Significant Reduction in Skin Scar Area, Fibrosis, Hyperpigmentation and Improved Appearance

Using a number of in vitro and in vivo models we have demonstrated that Sal-induced beta 2 adrenoceptor activation can restrain inflammation, angiogenesis and dermal fibroblast differentiation, function and pro-fibrotic signature via a number of mechanisms.

In vivo proof-of-principle studies were performed in the Red Duroc pig and demonstrated Sal treatment reduced scar area by almost 50%, 56 days post-wounding. Hyperpigmentation, colour match, sheen, height, texture and pliability were also significantly improved (figure 1).

Immunostaining demonstrated a significant early reduction in both macrophage infiltration and angiogenesis. Sal-treated wounds were also significantly less contracted after 14 days, indicating reduced dermal fibroblast function. Indeed, there was an approximate 50% reduction in immunostaining for a number of pro-fibrotic markers, in the wound bed of Sal-treated scars.

Benefits

- Topical salbutamol significantly improved scarring by altering inflammation, angiogenesis and dermal fibroblast function in porcine skin wounds
- Could have significant potential to reduce both physiological and pathophysiological human skin scarring

Macroscopic scar assessment at 56 days post wounding

Salbutamol reduces scar area at 28, 42 and 56 days post wounding

Market

100 million patients in the developed world heal with a scar every year as a result of elective procedures and trauma.

IP status

Patent applications are under examination in EU (EP2271326 A1) and US (US2011201691 A) and a recent GB filing has strengthened the protection.

Is your company supplying medical solutions and looking for an investment?

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