

# A CASE REPORT: KELOID TREATMENT FOLLOWING CHRONIC BURN INJURY WITH UMBILICAL CORD MESENCHYMAL STEM CELL-DERIVED SECRETOME (UC-MSC-DERIVED SECRETOME)

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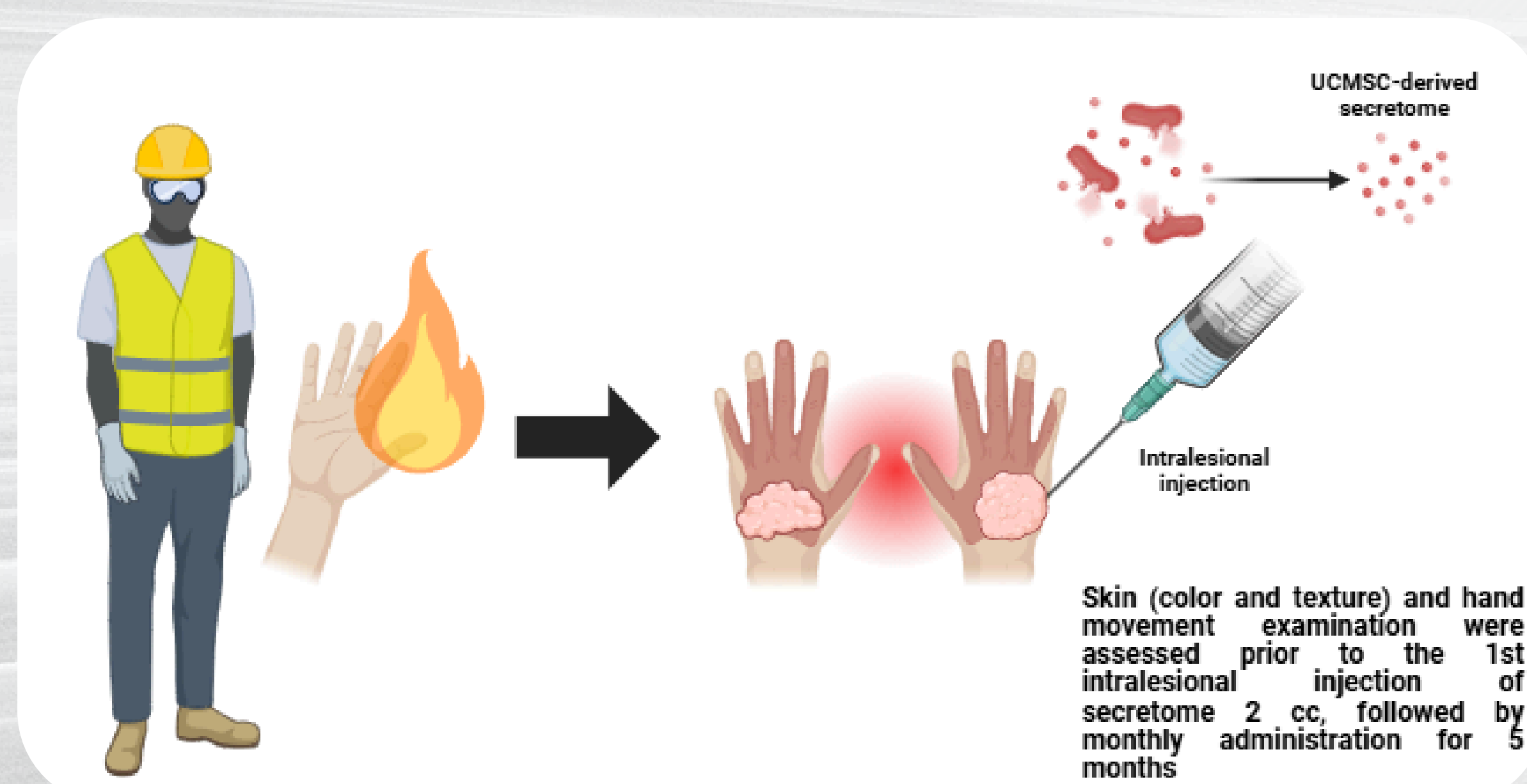
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## Background

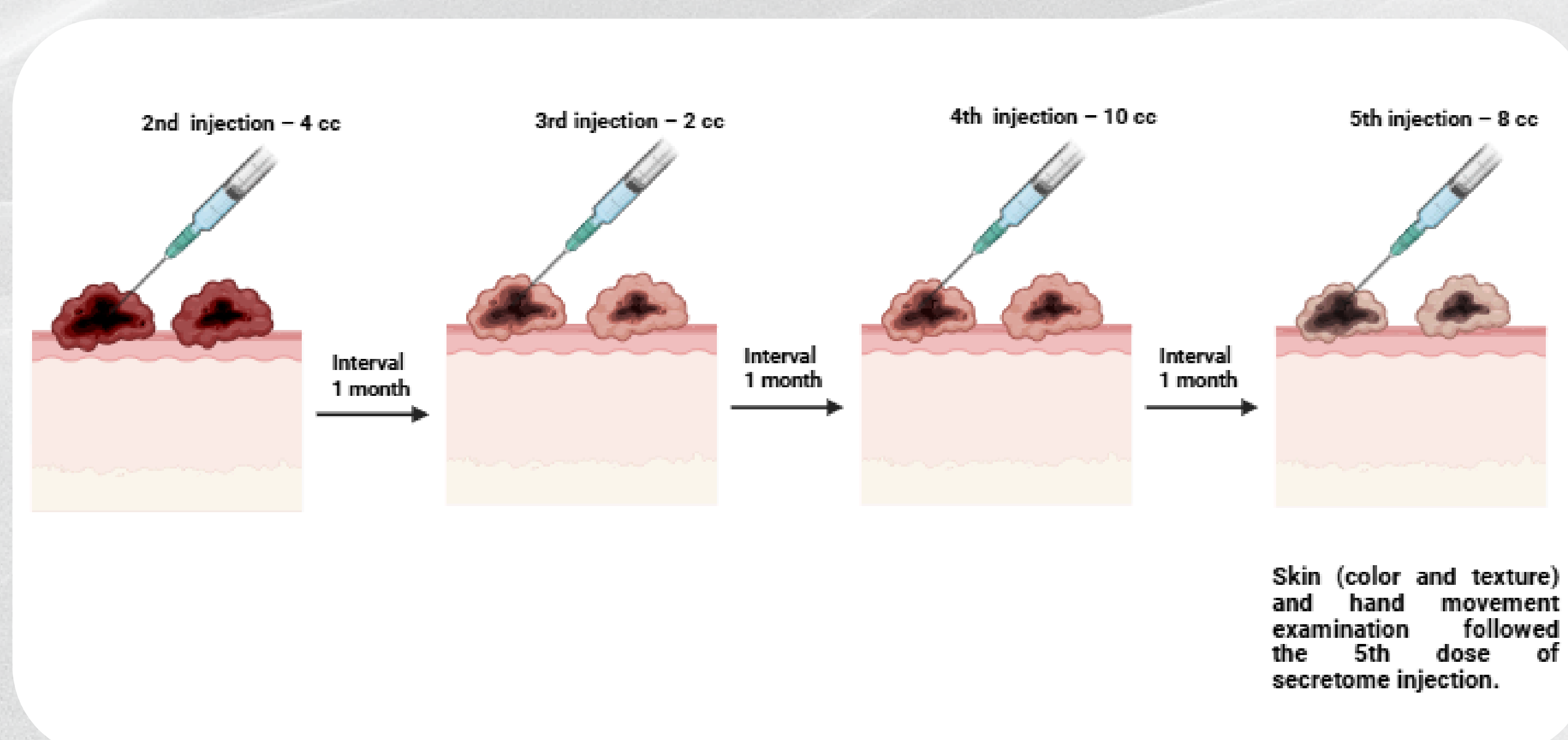
Keloid is a condition caused by aberrant signaling during the wound healing process, leading to the continuous growth of fibrous tissue and resulting in a scar that extends beyond the original wound boundaries. These scars can spread to other areas, causing issues such as loss of confidence, pain, itching, discomfort, and even psychological stress for those affected. Developing and testing effective therapies for keloids is essential. One promising strategy is regenerative therapy utilizing the Umbilical Cord Mesenchymal Stem Cell-derived secretome (UC-MSC-derived secretome).

## Methods

A 34-year-old male mining company worker sustained severe burn injuries during a workplace accident, which led to dense, solid keloids on his hand. He was treated with five intralesional injections of UCMSC secretome, administered throughout the keloid area at one-month intervals over five months. The administered doses were 2 mL, 4 mL, 2 mL, 10 mL, and 8 mL, respectively.



The clinical parameters in this study were assessed through visual observation and serial photographic documentation conducted before treatment initiation and after five monthly intralesional UCMSC secretome injections. Changes in keloid coloration, range of hand movement, and keloid texture were evaluated to provide a comprehensive assessment of treatment outcomes.



## Conclusion

This case report highlights the potential of UCMSC secretome as a therapeutic approach for keloids associated with chronic burn injuries. The observed improvements in appearance, texture, and mobility are promising; however, further research involving larger subject groups is necessary to confirm its efficacy and safety.

## Results & Discussion

Table 1. Measured Clinical Parameters

Clinical Parameter	Baseline	5 Months
Keloid Color	Pink	Pale
Hand Movement	+	+++
Keloid Texture	Hard, solid	Mild, supple

Following the treatment, significant improvements were observed in the keloid's characteristics. The color of the keloid transitioned from a vivid pink into a pale tone. The texture became lighter and more flexible compared to its original dense and rigid state. Additionally, the patient experienced a marked improvement in hand mobility, progressing from restricted and stiff movement to smoother and more fluid motion.

Left Hand



Figure 1. Keloid appearance before (pink) and after (pale) five injections of UCMSC Secretome, anterior view of Left Hand.

Figure 2. Keloid appearance before (pink) and after (pale) five injections of UCMSC Secretome, posterior view of Left Hand.

Right Hand



Figure 3. Keloid appearance before (pink) and after (pale) five injections of UCMSC Secretome, anterior view of Right Hand.

Figure 4. Keloid appearance before (pink) and after (pale) five injections of UCMSC Secretome, posterior view of Right Hand.



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