

EFFECT OF KELOID PROPERTIES ON TREATMENT EFFICACY: A SYSTEMATIC REVIEW

Vazula Bekkers¹ (MD, PhD), Paul Barsom² (MD), Qi Yin² (MD, PhD), Frank Niessen³, Paul van Zuijlen³⁻⁶ (MD, PhD), Oren Lapid³⁻⁵ (MD, PhD), Martijn van Doorn (MD, PhD)¹, Albert Wolkerstorfer² (MD, PhD)

Vazula Bekkers¹ (MD, PhD), Paul Barsom² (MD), Qi Yin² (MD, PhD), Frank Niessen³, Paul van Zuijlen³⁻⁶ (MD, PhD), Oren Lapid³⁻⁵ (MD, PhD), Martijn van Doorn (MD, PhD)¹, Albert Wolkerstorfer² (MD, PhD)

1. Department of Dermatology, Erasmus Medical Center, Rotterdam, the Netherlands

2. Department of Dermatology, Amsterdam UMC location University of Amsterdam, Meibergdreef 9, Amsterdam, The Netherlands

3. Department of Plastic, Reconstructive and Hand Surgery, Amsterdam UMC location Vrije Universiteit Amsterdam, De Boelelaan 1117, Amsterdam, The Netherlands

4. Pediatric Surgical Centre, Emma Children's Hospital, Amsterdam UMC location University of Amsterdam, Meibergdreef 9, Amsterdam, The Netherlands

5. Amsterdam Movement Sciences (AMS) Institute, Amsterdam UMC, Amsterdam, The Netherlands

6. Burn Center and Department of Plastic, Reconstructive and Hand Surgery, Red Cross Hospital, Beverwijk, The Netherlands

Contact information

Q. Yin, M.D.
Department of Dermatology, Amsterdam University Medical Centre, University of Amsterdam
Meibergdreef 9, 1100 DD Amsterdam, The Netherlands
T: +31 (0)20 566 6955,
E: Q.Yin@amsterdamumc.nl

Running Title

Effect of Keloid Properties on Treatment Efficacy: A Systematic Review

Word Count - 218 words

BACKGROUND

The efficacy of keloid treatment in randomized studies is highly variable. However, no systematic review has been performed to evaluate the effect of different keloid properties on treatment efficacy.

Objective: to identify clinically relevant keloid properties that may influence treatment efficacy.

MATERIALS AND METHODS

An electronic database search was conducted. Two reviewers independently selected randomized controlled trials (RCTs) and performed a methodologic quality assessment using the Cochrane risk-of-bias 2.0 tool.

RESULTS

One thousand five hundred twenty studies were screened, and 16 RCTs, involving 1,113 patients, were included. The authors found lower efficacy in older keloids (n = 3), keloids located on the chest, extremities, pinna, and shoulder (n = 3), larger keloids (n = 2), lower baseline Vancouver Scar Scale score (n = 1), and keloids with history of recurrence (n = 1). Overall, most studies had a high risk of bias.

CONCLUSION

Only a minority of studies specifically addressed keloid properties, which makes comparisons between studies challenging. The authors' results suggest that keloid location, duration prior to treatment, size, history of recurrence, and severity are clinically relevant keloid properties that affect treatment efficacy. Further studies are crucial to corroborate the authors' findings, establish a clinically relevant keloid classification, and ultimately develop an evidence-based treatment algorithm that takes these properties into account.