

Investigation of the Efficacy of Surgical Intervention for  
Abnormal Scarring Using Patient-Reported Outcome Measurements

Aya Miyama<sup>1</sup>, Teruyuki Dohi<sup>1</sup>, Whitney Quong<sup>1</sup>, Sayaka Seike<sup>1</sup>,  
Hajime Matsumura<sup>2</sup>, Rei Ogawa<sup>1</sup>

<sup>1</sup>Department of Plastic, Reconstructive and Aesthetic Surgery,  
Nippon Medical School, Tokyo, Japan

<sup>2</sup>Department of Plastic Surgery, Tokyo Medical School, Tokyo, Japan

Abstract

**Objective:** Keloids and hypertrophic scars impose a significant psychological burden, including itching, pain, and aesthetic concerns, leading to a marked decrease in quality of life. This study aims to report subjective evaluations of scar outcomes before and after surgery, and to analyze the results.

**Subjects and Methods:** A questionnaire survey was conducted on 40 patients who underwent surgery for keloids and hypertrophic scars. Assessments were made within one-month post-surgery about physical symptoms, before treatment and at least 6 months post-treatment included scar characteristics, physical symptoms, and psychological features, analyzed using Scar-Q, Vancouver Scar Scale, and a self-developed questionnaire.

**Results:** Approximately 50% of patients reported pain improved within one-week post-surgery, so that over 70% were able to return to work within one week, suggesting that surgery did not impose long-term burdens on patients. About 80% of patients felt an improvement in scar appearance compared to pre-surgery, and SCAR-Q showed improvements in all categories indicating therapeutic efficacy in psychological aspects and the effectiveness of surgery. However, about 30% of patients expressed a desire for further improvement in scar appearance postoperatively.

**Discussion:** Further questionnaire surveys are warranted to optimize postoperative care and follow-up, including surgical and adjunctive therapies, as well as psychological aspects.