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Comparison of the argon green laser and the high-frequency radio wave electro surgery for conjunctivochalasis

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Introduction: Various surgical approaches have been reported to reduce conjunctivochalasis, including simple excision, excision and amniotic membrane transplantation, fixation of the conjunctiva to the sclera, or superficial cauterization. However, these surgical approaches have certain disadvantages. Recently, new surgical approaches, such as high-frequency radio-wave electrosurgery and argon green laser electro surgery have been proposed.

Purpose: To compare argon green laser and high-frequency radio-wave electrosurgery for the treatment of conjunctivochalasis

Methods: 64 eyes from 38 patients with mild, moderate, severe conjunctivochalasis (CCh) were randomly assigned to 2 groups. One group was treated with the argon green laser, and the other group was treated with the high-frequency radio-wave electrosurgery. The ocular symptoms and signs, including the conjunctivochalasis grade, the tear Ocular Surface Disease Index (OSDI), the tear breakup time (TBUT), the Schirmer's test results were measured. Results: The average grade reduction was 1.15 in laser group and 2.09 in electrosurgery group ($p<0.001$). The differences of the OSDI, TBUT and Schirmer's tests results were 15.53, 1.06, 0.03 in laser group and 27.11, 1.87, 0.19 in electrosurgery group ($p<0.001$, $p=0.140$, and $p=0.787$). The grade reduction was 1, 1.25 and 1 in grade Ⅰ, Ⅱ and Ⅲ laser group and 1, 1.66 and 3 in grade Ⅰ, Ⅱ and Ⅲ electro surgery group. ($p=1$, $p=0.045$, $p<0.001$) The differences of the OSDI score was 17.19, 14.4 and 17.36 in laser group and 22.88, 27.86 and 28 in electrosurgery group. ($p=0.531$, $p<0.001$, $p=0.014$)

Conclusions: Conjunctivoplasty using either the argon green laser or the high-frequency radio-wave is a simple and effective choice for the treatment of symptomatic patients with conjunctivochalasis. In terms of accessibility, the argon green laser is easily accessible and equally effective in patients with grade CCh, whereas, in patients with grade Ⅱ and Ⅲ CCh, high-frequency radio-wave electro surgery is more effective than the argon green laser.

Biography

Sangkyung Choi is an ophthalmologist based in Seoul, South Korea. After graduating from Seoul National University, she finished her ophthalmology training at Korea Veterans Hospital. Dr. Choi was a research fellow at Wilmer Eye Institute in the Ocular Microbiology department. She also completed her clinical and research fellowship at Seoul National University Hospital, studying artificial cornea. She performs various surgeries including cataract operations, glaucoma surgeries, keratoplasty as well as refractive surgeries. She has performed over 30,000 ocular surgeries over the course of her career. She spends the remaining time on research and teaching.

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