

Soleus Muscle Reduction with Botulinum Toxin Type A Injection for Ankle Contouring

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The perception of beauty changes with time, and a thin ankle is considered a standard of beauty in modern times. Ankles have very low fat content; therefore, the muscle layer should be reduced to obtain thin ankles.¹ For contouring large ankles, a simple alternative to surgery may be botulinum toxin type A (Botulax, Hugel; Seoul, Republic of Korea) therapy, which does not hinder activities of daily living, provided that the procedure achieves an appropriate and reliable reduction in muscle volume.

We report the successful use of botulinum toxin for the treatment of 30 patients with enlarged soleus muscles. We administered botulinum toxin injection for ankle contouring. After sterilizing the skin, aliquots of 50 units of botulinum toxin in 1.2 mL diluent were injected on both sides of each soleus muscle. A total dose of 100 units of botulinum toxin was administered to each ankle (Fig. 1). Clinical photographs were obtained in the standing position on the floor with the legs in relaxed condition. Follow-up evaluations were planned at 2, 4, and 6 months after the procedure. A digital camera and tape measure were used to measure the circumference of the ankle 5 cm above the lateral malleolus.

Thirty female patients had bilateral soleus hypertrophy, with the average circumference measuring 23.2 (SD ± 6.8) cm before the procedure, which was reduced to 21.9 (SD ± 5.8) cm at 2 months, 22.2 (SD ± 5.7) cm at 4 months, and 22.9 (SD ± 6.7) cm at 6 months after the procedure. Thus, lower leg contouring was achieved by botulinum toxin injection. The action of the soleus is plantarflexion of the foot. The soleus specifically plays an important role in maintaining standing posture; however, no functional disabilities were noted. The effect of botulinum toxin usually lasts for 5–6 months, and a similar duration of effect was observed in our study. The surface contour of the ankle is directly attributable to the superficially located soleus muscle. A larger study is warranted to further validate our findings.²

The shape of the lower leg is determined by the degree and distribution of muscle and fat. The shape and outline of the calf is determined by the internal and external

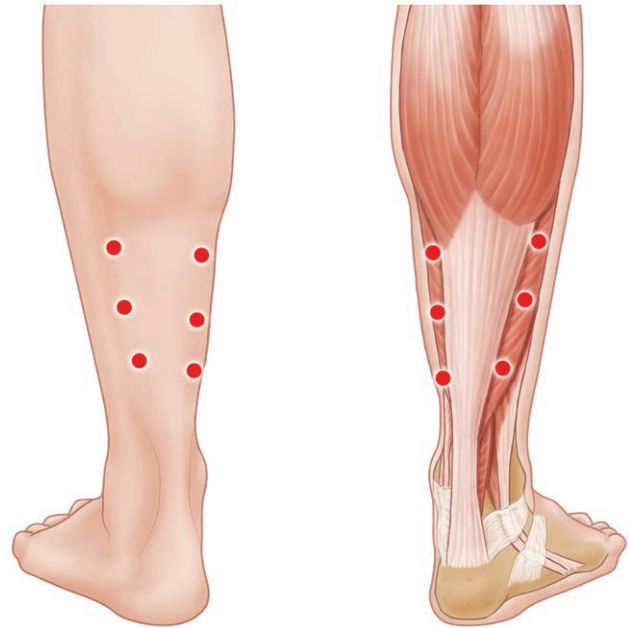


Fig. 1. Botulinum toxin injected at 12 points (red dots) on soleus muscle.

gastrocnemius muscles, and the overall size is determined by the soleus muscle.³ Earlier correction methods were limited; several correction methods have been developed now and they have shown good clinical effects. Thus, the desire for ankle correction is increasing.⁴ If the exclusion of cosmetic surgery due to cultural factors or the fear of surgery itself can be eliminated, the potential for the development of ankle contour correction is very high.

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DISCLOSURE

The author has no financial interest to declare in relation to the content of this article.

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