The nevus of Ota, also known as Naevus fusculoeruleus ophthalmomaxillaris, was first described by the Japanese dermatologist Ota in 1939.¹ It is characterized by an increase in pigmentation in the skin and mucous membranes in the regions of the maxillary and ophthalmic branches of the trigeminal nerve.² It is melanocytic hamartoma that presents unilateral or bilateral. NO common seen in Japan and east countries. The pigmentation varies and can be dark brown to blue to black-blue. We report on a 31-year-old female patient with the Nevus of Ota. In the treatment, the Q-switched Nd:YAG Laser (CURAS/QND-C1-Korea), was applied at a spot size of 3 mm, a 8 Hz repetition rate and 720mj/cm² fluence. 60% improvement in the color of Ota Nevus was seen with a single session. The Q-switched neodymium-doped yttrium aluminum garnet (QS Nd:YAG) laser has a significant effect in treating nevus of Ota.

Keywords: Nevus of Ota; 1064 Q-switched Nd; YAG Laser; single session; therapy

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A 31-year-old female patient presented to the hospital with a pigmented patch over on the right side of her forehead that had been present since birth (Figure 1). The case history revealed that this pigmented lesion was asymptomatic and was present since ten years old. She had no history of ocular disease, hearing loss, or use of medications that produce pigmentation.
Physical examination revealed a blue-gray, hyperpigmented, poorly defined patch on the right forehead area. There was no pigmentary disturbance of either eye or the oral mucosa. She was diagnosed with Nevus of Ota based on her history.

The informed consent form was obtained before the treatment. The local anesthesia was achieved by 15 minutes of pretreatment with topical 5% lidocaine and then cleaned with hydrogen peroxide-sodium-hypochloride. The test shot was placed in a suitable non-exposed area. The patient was initially treated with 2 sessions of 1064 nm Q-switched Nd:YAG (CURAS/QND-C1–Korea). The entire lesion was then scanned with a 3mm spotsize at 720mj/cm2 and 8 Hz. The treatment produced an expected petechial rash (Figure 2, 3). Spot hunting was then performed on the second scan to treat untreated and skipped areas. An antibiotic ointment (%2 fucidic acid) was applied and the treatment area was covered with a sterile gauze pad and kept occluded for 24 hours. The ointment was used 3 times a day for the next 7 days without any occlusion. Sun avoidance was recommended. The treatment interval was four week.

Since the patient lived outside the country, she could not come to the hospital after the second session of laser therapy. However the improvement in the color of Ota Nevus satisfied the patient even after the first session (Figure 4).

**DISCUSSION**

Nevus of Ota (NO) characterized by a blue-gray color discoloration and originates from dermal melanocytes. The nevus is more common in females, with a male-female ratio of 1:4.8. The nevus present at birth or in the first year of life, 36% appear between the ages of 11 and 20 years old. The pigmentation can also involve conjunctiva, cornea, retina, lips, palate, pharynx or nasal mucosa.

Ota Nevus originates from dermal melanocytes. During embryonic development, melanocytes migrate from the neural crest to the epidermis. It is thought that the nevus of Ota represent melanocytes that have experienced migrational arrest in the dermis. Some have speculated that there is a hormonal influence as well, accounting for the lesions that appear at puberty and the female predominance. Trauma has also been reported as a trigerring mechanism.

The Q-switched neodymium-yttrium aluminium-garnet (Q-switched Nd-Yag) laser has been
used in the treatment of nevus of Ota. Q switched Nd-Yag laser is the least absorbed laser by melanin and has the deepest penetration feature. This laser emits a longer, near infrared ray of 1064 nm, which destroying the dermal melanocytes of nevus of Ota, by selective photothermolysis. The treatment outcome with Q switched Nd-Yag laser may vary depending on the depth and density of the melanocytes in the dermis and also the skin types.

In the studies conducted, laser sessions were usually planned as 3-4 session, and the healing rate was found as 80-85%. Liu et al. 224 patients with nevus of Ota were treated using the QS Nd: YAG laser. They measured that the correlation between treatment sessions and the effect and showed that twenty-two patients had 100% and nine patients 76-99% improvement after first session. After two sessions, 100% improvement was seen in 28 patients and 76-99% improvement was seen in 14.

The treatment effect increases with treatment sessions. If we could complete the treatment sessions in three, we observed that the healing rate would reach 80-90%. Nevertheless, even with a single treatment, it is possible that the Q switched Nd-Yag laser is effective in the treatment of Ota Nevus.

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Conflict of Interest
No conflicts of interest between the authors and/or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

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REFERENCES