Giant Nevus Lipomatosus Cutaneous Superficialis on the Buttock

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Summary: Nevus lipomatosus cutaneous superficialis is a benign hamartoma characterized by the presence of mature ectopic adipocytes in the dermis. Here, we report a case of giant nevus lipomatosus cutaneous superficialis, measuring 24×14 cm in diameter, on the buttock. The tumor was resected, and the cutaneous defect was closed with a rotation flap under general anesthesia. No complication or recurrence occurred after surgery. Giant nevus lipomatosus cutaneous superficialis is very rare, and repair of the skin defect required plastic and reconstructive surgery. (*Plast Reconstr Surg Glob Open* 2018;6:e1918; doi: 10.1097/GOX.0000000000001918; Published online 21 November 2018.)

Nevus lipomatosus cutaneous superficialis (NLCS) is a benign hamartoma characterized by the presence of mature ectopic adipocytes in the dermis.^{1,2} NLCS was first described in 1921 by Hoffman and Zurhelle³ and has been classified into 2 clinical forms: classical and solitary.¹ The classical type is usually composed of multiple groups of skin-colored, pedunculated nodules. The solitary type is characterized by a solitary dome-shaped or sessile papule or nodule.^{1,4}

A giant classical NLCS lesion measuring 24×14 cm in diameter on the buttock was resected, and the cutaneous defect was closed with a rotation flap. Giant NLCS of this size is very rare, and no case has previously been reported in the plastic surgery field.

CASE

The patient was a 48-year-old male who presented with a huge tumor on his left buttock. The size was small when he first noticed it 30 years ago, but it gradually grew to 24×14 cm in diameter. During this period, the patient never consulted any medical institute as he had no symptoms. On admission, the tumor was mulberry in shape on the surface, blackish-salmon pink in color, and elastic soft (Fig. 1; see figure, **Supplemental Digital Content 1**, which displays the tumor observed from the posterior side, <http://links.lww.com/PRSGO/A851>). Magnetic resonance imaging (MRI) revealed that the tumor contained unevenly distributed fat and had infiltrated

the subcutaneous tissue [Fig. 2; see figure, **Supplemental Digital Content 2**, which displays a horizontal view on MRI T2 (yellow arrow indicates the tumor), <http://links.lww.com/PRSGO/A852>). Incisional skin biopsy was performed 2 times, and the histopathological analysis demonstrated soft fibroma and seborrheic keratosis. The tumor with the pedicle of 11×6 cm in size was resected with a 1-cm resection margin over the fascia (see figure, **Supplemental Digital Content 3**, which displays a tumor after it was resected with a 1-cm resection margin on the fascia, <http://links.lww.com/PRSGO/A853>). The skin and cutaneous defect of 12×7 cm were closed with a rotation flap (Fig. 3; see figure, **Supplemental Digital Content 4**, which displays elevation of the rotation flap on the buttock, <http://links.lww.com/PRSGO/A854>). Ectopic mature adipocytes were found in the tumor dermis on histopathological examination (Fig. 4). Based on the clinical and pathological findings, it was diagnosed as NLCS. No recurrence of the nodule was noted as of 6 months postoperatively.

DISCUSSION

NLCS is considered to be a rare nevus and has been reported in a few case reports. However, its etiology remains unclear.

The histopathology of NLCS usually includes proliferation of ectopic mature adipocytes in the reticular dermis, comprising 10–50% of the lesion.⁴ Theories, such as mesenchymal perivascular differentiation of lipoblasts, focal heterotopic development of adipose tissue, and adipose metaplasia throughout degenerative changes in

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Fig. 1. Frontal view of the tumor.

dermal collagen bundles and elastic tissue, have been proposed for the heterotopic occurrence of adipose tissue, but they have yet to be substantiated.⁵

Pathological tissue from NLCS is likely to be confused with plexiform neurofibroma, connective tissue nevus, vascular malformation, lipomatosis, or lipoblastomatosis. In the present patient, soft fibroma with seboreic keratosis was suspected based on the preoperative partial biopsy of the tumor surface, but NLCS was definitively diagnosed by pathological examination after total resection.

Fig. 2. Sagittal view on MRI T1 (yellow arrow indicates the tumor).

Fig. 3. HE staining.

NLCS has been classified into 2 clinical forms: classical and solitary.^{1,3} The classical type often grows to be large in size.⁵ A case of NLCS on the buttock that was 40×28 cm in size was previously reported as the largest.⁶ Two other cases of NLCS of approximately 20×30 cm in size have also been reported,^{7,8} but no case has been reported from the plastic surgery field, and the resection defect of our patient was closed with a flap procedure, differing from other cases. The characteristics of giant NLCS are a tumor on the lumbar or buttock area and a long disease duration.⁵ It is often compressed while sitting and enclosed under clothing for long periods. In general, giant tumors on the occipital to back and buttock areas remain untreated for long periods because the patients cannot see it themselves and do not notice it. Surgical resection is the first choice for treatment of NLCS. Cryotherapy is applied only for patients who do not want surgery, but the outcome is only partially satisfactory.⁶ Although the giant NLCS itself exhibited no symptoms, sitting became difficult for the patient, and he decided to visit the hospital. For treatment of NLCSs, correct pathological diagnosis and complete resection with resection margins are needed, especially for giant NLCSs, which often require wide skin resection and closure of the skin defect with skin flaps.

PATIENT CONSENT

The patient provided written consent for the use of the images.

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Fig. 4. Immediately after coverage of the skin defect with a rotation flap during surgery.

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