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Multidisciplinary approach to treat a large involuted haemangioma

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Summary Haemangiomas are common benign vascular tumours but extensive ones are rare. Such large haemangiomas require treatment but important sequelae persist even after complete regression. We report the case of a young girl who presented with cosmetically disturbing sequelae after complete regression of a large haemangioma of the face. She referred to our multidisciplinary team to improve her facial appearance.

Case report

A Caucasian girl was born in November 1984 with an extensive haemangioma of the right face, the mental and sub-mental region and the left cheek (Fig. 1). In the mouth, the haemangioma extended to the palate, and the mucous part of the left cheek. The ophthalmologic examination showed a right exotropia. CT scan of the brain was normal. In February 1985, she was admitted because of laryngeal dyspnoea. Endoscopic examination and CT scan confirmed extension of the haemangioma to the subglottic area and to the extra-conal area of the right eye. She was treated with systemic steroid therapy 1.5 mg/kg/day associated with alternate ocular occlusion to avoid amblyopia. At 9 months of age the growth of haemangioma stopped and steroid therapy was slowly discontinued.

At 14 years of age, she was evaluated by our multidisciplinary team for the treatment of the sequelae of this involuted haemangioma (Fig. 2). Facial MRI was performed to confirm the complete involution of the haemangioma. There was a mass of the subcutaneous tissue which exhibited a fat density, hyperdense in T1 weighted scans and isodense in T2 weighted scans (Fig. 3a, b). Because of the preponderance of the subcutaneous fat tissue our first treatment was liposuction. Between 1996 and 1999, three episodes of liposuction

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Figure 1 Five months: Haemangioma on right face, the mental and sub-mental region and the left cheek.

were performed on cervical area, right cheek, left cheek and lower lip (Fig. 4a, b). The area to be aspirated was marked preoperatively. The procedure was done under general anaesthesia and each area was infiltrated with approximately 30 ml of adrenaline solution (1 mg/l serum). The fat was harvested with a three dimensional aspiration. Around 30 cc of normal fat on each area was aspirated from each area with a 3 mm cannula except for the lower lip where only a little quantity of fat mixed with blood was obtained. Follow-up evaluation demonstrated improvement of the facial deformity. However, the lower lip was not improved by this treatment although two liposuctions of the lip were performed during the three facial procedures. The results were complicated by prolonged swelling for 3 weeks despite compressive treatment and no reduction of the volume. In August 2000, we tried to reduce the volume in a frontal plane by excision of fat and muscle with an approach on the vermilion border.

Figure 2 Twelve years: After involution of haemangioma.

She also wanted to improve the textural changes of her skin induced by involution of haemangioma. There were atrophic scars on the areas previously involved with haemangioma due to the destruction of elastic fibres. In 1997, a dermabrasion test was performed on the preauricular area with no cosmetic benefit. As the clinical efficacy of laser resurfacing was well established, a pulsed CO_2 laser test was performed. The clinical results were very good. In February 2001 she had a first pass on the whole face with pulsed CO_2 laser (Coherent Medical Group, Santa Clara, CA) under general anaesthesia. The pass was performed with density 7 and size 9 and a peak power of 60 W. In September a second pass with Erbium: yttrium aluminium garnet (Er:YAG) laser (Baasel lasertechnik GmbH&CoAG) was performed on the nasolabial groove furrow with a fluence of 2 J/cm^2. The treatment after laser procedures was the same, post-operative treated areas were covered with vaseline dressings remaking the following day. After 3 days of closed dressings an open technique was used consisting of alternating hourly applications of vaseline oil. Healing was obtained after 2 weeks with no complication. The atrophic scars, the overall skin tone and texture significantly improved (Fig. 5a, b). The eyebrows were tattooed in October 2002. The patient was extremely satisfied.

The skin excess of the facial and sub-mental area was treated in May 2003 by the association of a cervico-facial lift and genioplasty. Under general anaesthesia, advancement-ascension genioplasty rigidly fixed with miniaturised Paulus plates of 6 mm was performed according to the classical technique. The cervical lift was done with a platysmal suspension technique. Therefore, the free edge of the platysma was fixed to the Lore's fascia and was associated with a superficial aponeurotic muscular system plication.

The reduction of the lower lip was evaluated by our multidisciplinary team as 'poor results'. After Berenguer's publication,[10] we discussed with her and she suggested a lateral sagittal and transfixing reduction of both sides of the lip (Figs. 6a, b, 7a, b, and 8) associated with a vermillion flap. One-third of the lower lip was resected above the labio-mental fold with two lateral triangular incisions which had a W shape at the inferior part.