

Autologous Fat Grafting Restores Soft-tissue Contour Deformities after Vascular Anomaly: Widening the Horizons of Employment of Autologous Fat Grafting

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Sir:

We read with great interest the article by Teresa Minjung et al¹ “Autologous Fat Grafting Restores Soft-tissue Contour Deformities after Vascular Anomaly.” The authors described the therapeutic effects of autologous fat grafting, in particular with lipoaspirate fat grafts, in the correction of soft-tissue deformities after surgical excision, and in improving surgical scars, outlining the current understanding in literature.

The main role in this regenerative effect is played by functional adipose-derived stromal cells (ADSCs) that have immunosuppressive properties—decreasing the proliferation of human T cells—and modulatory function on inflammation. They can also promote angiogenesis, through secretion of paracrine factors, having, therefore, a central role on tissue regeneration.² Adipose-derived stromal or stem cells can be easily obtained after emulsification of fat through different techniques.³

The use of ADSCs in plastic and esthetic surgery has been already widely documented.⁴ Other applications have also been reported as well in other fields, like in orthopedics for joint regeneration, in neurosurgery for spinal cord injury, or even for the treatment of chronic neuropathic pain.⁵

The article by Teresa Minjung et al¹ captured our attention due to the potential use of lipoaspirate fat grafting in other similar but not yet investigated contests. Indeed, the anti-inflammatory and regenerative-tissue effects of ADSCs can have an important role in the treatment of digestive tract perforations or fistulas. In fact,

the natural environment of gastrointestinal perforation is characterized by inflammation, sometimes fibrosis in chronic situation, where the normal repair processes are often altered and delayed. The mechanism of action of ADSCs described previously should be active in the tissue regeneration and help in closing the fistula, completely.

In common practice, the burden of digestive perforations and fistulas is very heavy (spontaneous and iatrogenic esophageal perforation, chronic fistulas postinterventions, intestinal bowel diseases, etc.) and it often requires multidisciplinary treatments, complex surgical procedures, and long hospitalization for the patients. Furthermore, often the patients have complex clinical conditions not suitable for major surgery and require a multidisciplinary management and minimally invasive treatment, in accordance with the personalized medicine principles.

Our multidisciplinary team composed of thoracic surgeons, plastic surgeons, and digestive endoscopists has been already working on the minimally invasive and conservative treatment of digestive tract perforations and fistulas using ADSCs potentiality.

By the means of an endoscope, the mechanically emulsified autologous fat grafting can be injected by 22–25 G needles in the site of perforation, following a specific technique.

The so far excellent results will be a matter of publication soon.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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