



## CLINICAL REPORT

### Pilot study on facial palsy correction with suture suspension

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#### KEYWORDS

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#### PALABRAS CLAVE

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Técnicas estáticas;  
Suturas Silhouette

**Abstract** We present a pilot study to evaluate the benefit of static facial suspension with Silhouette sutures. We operated on a female patient with complete facial palsy secondary to otic tuberculosis. The patient has currently achieved satisfactory facial symmetry, mastication and speech production. As a result, self-esteem and social interaction have also been recovered.

Static facial suspension with Silhouette sutures is an alternative to dynamic techniques in patients who do not wish to or cannot undergo those more complex surgeries.

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#### Estudio piloto sobre la corrección de la parálisis facial con hilos tensores

**Resumen** Presentamos un estudio piloto para evaluar la eficacia de la suspensión estática facial con las suturas Silhouette.

Operamos con esta técnica a una paciente con parálisis facial total y completa secundaria a una tuberculosis ótica. Actualmente presenta mejoría de su asimetría facial así como de la masticación y habla. Y con ello una recuperación de su autoestima y de su interacción social.

La suspensión estática facial con estas suturas es una alternativa a las técnicas dinámicas en los pacientes que no quieren o no pueden someterse a estas cirugías.

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## Introduction

Static facial suspension procedures stabilise the muscles of mid-face paralysis and provide facial symmetry, a better aesthetic appearance, improved chewing and speech production in patients with facial paralysis. The new generation of Silhouette wires for tissue suspension is a significant improvement with respect to gold threads or Russian threads. They provide a new method of anchoring since they are made of polypropylene with absorbable cones of polylactic acid and glycolic acid. This suture allows tissue growth in and around the cones and therefore a stronger bond.

They were approved by the FDA in November 2006 and by the EEC in March 2007. They have been used in over 6,000 mid-face facial aesthetic surgery interventions in the U.S and Europe and have recently begun to be used to treat facial paralysis.<sup>1</sup>

## Clinical report

We present a patient aged 79 who was admitted at our department in August 2006 due to facial palsy and left otorrhea. The bacteriological outcome was ear tuberculosis with osteomyelitis of the petrosal diagnosed by CT, as well as pulmonary infiltrates on chest radiograph. The facial nerve presented no reinnervation, so once cured of her tuberculosis she was offered treatment to repair the facial paralysis with both dynamic and static techniques. Given her context, the patient was informed of the static non-invasive technique with the new sutures, and she decided on this. She was operated on nearly 3 years after the onset of her facial paralysis.

The results were acceptable; the deviation of the mouth was considerably minimised. The patient reports that she can currently chew on the paralysed side and people understand her when she talks. That is, the degree of aesthetic and functional satisfaction of the patient is satisfactory (Figure 1, Figure 2).



**Figure 1** The patient before surgery.



**Figure 2** The patient after surgery.

## Discussion

Facial paralysis may result from various processes and manifest itself in different ways. In this study, we will refer only to those paralysees that have the maximum degree of nerve degeneration, from which no movement is recovered by spontaneous reinnervation. The only option in such cases is reconstructive surgery.

Restoration techniques<sup>2</sup> are divided into: dynamic, designed to allow the patient to regain some degree of facial movement, especially the smile; and static, seeking facial suspension in the most natural way possible.

Dynamic techniques employ nerve grafts and muscle transplants, depending on the time elapsed from facial nerve damage. Neurotomy and grafting techniques are indicated when there is an anatomical nerve discontinuity or a complete and irreversible loss of function, but there are still competent distal neural tubes and the facial musculature is not yet atrophied.<sup>3,4</sup>

Static techniques can improve facial symmetry at rest. They can be performed on patients who are not candidates for dynamic techniques due to their age (over 60 years) and in those who reject such invasive techniques. These techniques include lifting, static tensile strips with grafts, myotomies, etc.<sup>5,6</sup>

Both techniques have advantages and disadvantages, and while neither offers optimal recovery, both involve difficulties in their implementation and aggressiveness for the patient. We propose a mini-invasive surgery to obtain acceptable results. The procedure using Silhouette sutures would be indicated in cases of late facial paralysis that cannot be treated by other methods.

The treatment implants 5 wires in the paralysed side of the face. Some cases require 1 or 2 extra wires to maximise the correction, in cases of large cutaneous excess, like ours. In summary, we believe it to be a correct, non-invasive method to improve paralysed faces from the aesthetic and functional point of view.

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