

## THE ELECTRICAL STIMULATION OF THE GASSERIAN GANGLION IN THE TRIGEMINAL IATROGENIC NEUROPATHY: A CASE REPORT.

S.Mameli\*, D.Sanna\*\*, S.Foddis\*\*\*, A.Marchi\*\*.

\* O.U. Businco Hospital, Cagliari

\*\* University of Study – Cagliari

\*\*\* University of Study - Sassari

A 63 years old male patient came to our attention following the appearance of a Trigeminal Iatrogenic Neuropathy<sup>1-2</sup> on the right side together with pain of the C2- C3 skin zones of cervical plexus. The trigeminal neuropathy was defined «iatrogenic» because neurosurgical procedures were carried out as indicated in the trigeminal neuralgia that does not respond to medical treatment<sup>3-5</sup>. The procedures, in this case, consisted of surgical neurovascular decompression and in a radiofrequency trigeminal rhizolysis of the third branch<sup>9</sup>. In fact, the patient, during his clinical history, did not obtain lasting pain relief with the standard combination of anticonvulsants and opioids and, furthermore, pain relief was not obtained either with invasive neurosurgical procedures, which resulted in worsening of the clinical conditions, nor with the following spinal implant of electrical stimulation on the C1 level. We then proceeded to apply a stimulation of the Gasserian Ganglion via an implanted electrode<sup>4-5-6</sup>. This method is similar to the traditional technique of the radiofrequency trigeminal rhizolysis. Under fluoroscopic control a modified Tuohy needle was introduced into the cheek's skin ipsilateral at the pain syndrome. The needle was directed towards the cranial base in front of the foramen ovale. Once the needle had been placed in the Gasserian cistern, in an extradural position, a small percutaneous stimulation electrode was introduced. With the patient's collaboration, the trigeminal skin zones were identified carefully with a test stimulation. At this point, the extension of the stimulation electrode was tunnelled under the skin and then connected to an implantable pulse generator located in a supraclavicular pocket, on the right side.

The application of a long term electrical stimulation showed, in our clinical case, important pain relief, obtaining a sensation of paresthesia in the skin zones that were previously involved in the chronic neuropathic syndrome<sup>7-8-9</sup>. During the 9 months following the electrode implant, we noticed a marked improvement in the patient's condition and in his daily and working activities, previously impeded by his pain. The trigeminal electrical stimulation, therefore, can represent a therapeutic option in patients with symptoms as in this clinical case: presentation of neuropathic pain; little or no response to traditional drugs; little or no response to radical surgery.

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