

Title: **A safer way to find the Sphenopalatine Ganglion (SG). Proposal: Navigate along the posterior wall of the pterygopalatine fossa (PPF).**

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**Objetives:**

The anterior half of the PPF is mainly occupied by the maxillary artery. The SG is found in the posteriomedial half of the PPF in the upper third. This technique to reach the SG avoiding vascular elements "navigate with the curve needle along the posterior wall of the PPF (NAPW)" to reduce the risk of LA toxicity and hematomas.

**Methods:**

In 10 patients (20 procedures: 10 diagnostic blocks and then 10 RFs) the NAPW was used to reach the SG, as per the 3 steps below:

1) Lateral projection of the C ARM to see the PPF. Superimpose the descendent rami of both mandibles to avoid seeing one PPF in front or behind another. And superimpose the skull base and the zygoma to avoid seeing one PPF over or under the other. That is how we can have a single silhouette of the PPF rather than a double image. (Fig. 1,2)

2) Beyond the coronoid process and the zygoma the needle moves forward to cephalad, along the posterior wall of the PPF. Fig. 3,4. 3) Final position: like previous techniques must confirm in PA projection. Fig 5.

**Results:**

Results can be found on Table 1, with 0% arterial punctures. This technique was effective to reach the SG in all cases.

**Conclusions:**

With the technique NAPW, a safe approach can be made of the PPF and the SG without exposure to vascular punctures. More cases could confirm this technique as a safer option.

Age	Sex	Pathology	T	DB	Stimulation with RF	C	Follow-up
45	F	Iidiop. Intracranial Hypertension and autonomic signs	4	Ok	Feels in the nose	none	Relief Topiramate
39	F	Migraine and autonomic sign	17	Ok	Feels in the nose	none	Relief
42	F	Cluster headache	11	Ok	Feels in the nose	none	Relief
69	M	Cluster and Trigeminal	7	Ok	Feels in the nose	none	Relief
63	M	Cluster and Cervicogenic headache	17	Ok	Feels in the nose	none	Occipital neuromodulation
44	M	Sphenopalatine neuralgia	9	Ok	A little high and needs correction. Then feels in the nose	none	Relief
48	F	CA Maxillary branch with orbit invasion	3	Ok	Feels in the nose	none	Codeine
53	M	Migraine. Autonomic signs, bilateral	30	Ok	A little high and needs correction. Then feels in the nose	none	Paracetamol
48	F	SUNCT	5	Ok	Feels in the nose	none	Relief Trigeminal RF, carbamazepine
26	F	Sphenopalatine neuralgia	1	Ok	Feels in the nose	none	Relief Pregabalin

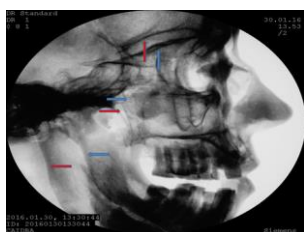


Fig 1 Blue : Right Red Wrong

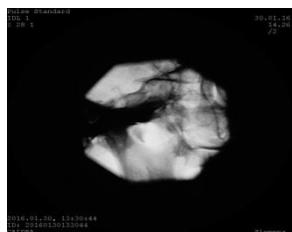


Fig 2

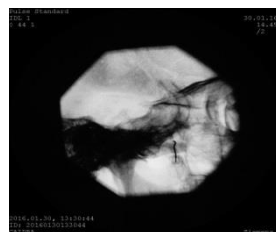


Fig 3

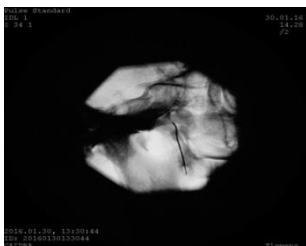


Fig 4



Fig 5

Table 1. 20 pain procedures. 10 Diagnostic and 10 cases of Radiofrequency of SG. Sex : Male Female; T : Time of evolution in years; DB :Diagnostic Block. ok in this column means satisfactory pain relief; C: Complications; Folow-up: Note is taken as to whether regular medication or other therapies were required.

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 -Buchholz, B. Capítulo 12. Anatomía Funcional del Sistema Nervioso Autónomo. Medicina del Dolor, Perspectiva Internacional. Autor: Juan Carlos Flores. Ed Elsevier. Pg. 103-131; 2014  
**Keywords:** Sphenopalatine block and safety, pterygopalatine fossa and bleeding, pterygopalatine anatomy.  
 Institutional Ethics and Informed Consent Criteria prior to block and RF satisfied in every case.