



Sphenopalatine Block for Treatment of Migraine Headache

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Mini Review

Migraine is a common headache and a leading cause of disability worldwide [1]. Chronic migraine (CM) burdens patients due to the headache and debilitating associated symptoms and through disability high economic costs. CM patients meet diagnostic criteria and have a minimum of headaches and symptoms 8 days a month or headaches on 15 days a month. A complete, detailed history and an in-depth physical examination with the emphasis on neurologic aspects is required in order to differentiate CM from other causes of headache. If indicated, other diagnostic tests may be required [2]. A multifaceted approach is used to eliminate risk factors and headache triggers. Prophylaxis and abortive approaches can be applied. Use of pharmacologic agents for the acute/chronic treatment of migraine may be limited by adverse side effects, variability of effect and efficacy, or contraindications, allergies or untoward drug-drug interactions. These factors contribute to chronicity of the headache and medication overuse headache [3].

Historically, we have considered migraine as a self-limited pain disorder that is episodic. More recently however, CM has become an end stage disorder of episodic migraine (EM). The International Headache Society suggests that CM is a complication of EM [4-6]. Indeed, other current evidence indicates that migraine may be a chronic progressive disorder characterized by escalating frequency of headache attacks, often termed transformed migraine. Munakata et al. [7] reported that transformed migraine patients missed much more work or school time. Productivity was significantly reduced. Average per-person annual total costs were 4.4-fold greater for those with transformed migraine (\$7750) versus those with EM (\$1757). Transformed migraine extracts a significant economic toll.

Approximately 15% of the world population is affected by migraine. Incidence varies by sex, age, ethnic background and geographic area. It is more common in women and reported to be disabling in 2% of the general population [2,8-13]. In the US, the National Foundation estimates that nearly 12 percent of the population experience migraine headaches. This means that nearly 40 million people in the United States have migraines. Women are about three times more likely than men to experience migraines.

Migraine is a common disabling brain disorder that affects one in seven US citizens annually. The burden of migraine is substantial, both in economic terms and for individual patients and their close family members.

Migraines are a significant source of both medical costs and lost productivity. It has been estimated that they are the most expensive neurological disorder in the European Community, costing more than €27 billion per year [14-17]. In the United States direct costs have been estimated at \$17 to 19.6 billion while indirect costs are estimated at another \$15 billion.

It is thought that as many as 20% of those with CM and one in 8 of with high headache frequency are employable but are not gainfully so [18]. CM imposes significant burdens. There may be physical, emotional, occupational, academic, social, leisure, and family systems placed on these patients. Societal burdens include those direct and indirect costs which must be paid by society through costs passed on to companies and their customers as well as health care systems and taxpayers [19].

This article provides a brief view of acute and chronic migraine treatment, using sphenopalatine (SPG) block with local anesthetic drugs only. For full anatomic details and methods, please see the reviews [20-25].

For over a hundred years, the sphenopalatine ganglion (SPG) has been utilized to treat a wide variety of pain disorders. Post-ganglionic parasympathetic, sympathetic neurons and the somatic sensory efferent nerves can all be blocked by the SPG interventions. Interventions include block with local anesthetics and neural destructive agents, radiofrequency or surgical ablation, and neurostimulation [20,21]. Painful conditions treated included: headache of various etiologies, trigeminal neuralgia, oral/facial pain due to cancer; tension headache in labor and post-dural puncture headache (PDPH), herpetic neuralgia of the eye and complex regional pain syndrome I and II of other body areas as well as effective pain relief in various other pain syndromes including sphenopalatine neuralgia, atypical facial pain, muscle pain, vasomotor rhinitis and eye disorders.

Trials have shown that these pain disorders can be managed effectively with sphenopalatine ganglion blockade (SPGB). The SPG block with local anesthetics is a safe, easy to administer and cost-effective method to manage acute, chronic and breakthrough pain and provides immediate relief and minimal adverse side effects [22-25]. SPG block can be performed following a simple protocol by physicians, nurse practitioners and PAs in various sites such as the office, clinic and ER department.

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