Abstract: **P4562**

**Bilateral sphenopalatine ganglion block reduces blood pressure in never treated hypertensive patients. A randomized controlled study.**

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**Topic(s):**
Hypertension: Device Treatment and Intervention

**Citation:**
Background: Sphenopalatine ganglion (SPG) area is connected through sympathetic fibers with the central nervous system. We aimed to study the effect of SPG block in blood pressure (BP) in never treated patients with stage I-II essential hypertension.

Methods: We performed bilateral SPG block with lidocaine 2% in 53 newly diagnosed and never treated hypertensive patients (study group, mean age 49±12 years, 38 men) and a sham operation with water for injection in 11 patients (control group, mean age 51±12 years, 8 men). All patients have been subjected to 24 hour ambulatory blood pressure monitoring prior and a month after the SBG block in order to estimate any differences in blood pressure parameters derived from ABPM (blood pressure, heart rate, blood pressure load and variability). We defined as responders to SBG block those patients with a 24h average SBP decrease > 5 mmHg.

Results: In the study group, a month after SPG block: a. 24h average SBP and DBP were reduced by 1.3±7mmHg and 1.8±5 mmHg, respectively, and b. 24h average DBP (p=0.03), daytime DBP (p=0.01) and daytime DBP load (p=0.01) were significantly decreased. Interestingly, in the responders group (14/42, 33%) a month after SPG block: a. 24h average SBP and DBP were reduced by 9±4mmHg and 6.5±3 mmHg, respectively, b. SBP and DBP were decreased during overall 24h and daytime (p<0.001) and night-time periods (p=0.002 and p=0.02, respectively) and c. SBP load was decreased during daytime and night-time while DBP load was decreased during daytime (p<0.001). As it was expected, no differences regarding BP were found in the sham operation group.

Conclusions: We have proved that the minimally invasive option of the SPG block leads to blood pressure decrease, probably through SNS modulation. Moreover, due to its short-term anesthetic effect, SPG block might act as a method of selection of those hypertensives with an activated SNS before any other invasive procedure.
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