

# Active Drug-Free Prevention of Supine Hypotension Syndrome in Pregnant Women for Safe Performance of Non-Obstetric Surgical Interventions Under Local Anesthesia

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## Abstract

**Background.** With the increasing number of non-obstetric surgical interventions performed under local anesthesia during pregnancy, surgeons have encountered a specific pathology: Supine Hypotensive Syndrome of Pregnancy (SHS), also known as supine hypotension syndrome. **Objective.** Our goal was to develop and actively implement a specific positioning for pregnant women on the operating table to ensure safe surgical interventions under local anesthesia, thereby preventing SHS. **Method.** We analyzed 780 non-obstetric surgical interventions performed on pregnant women in their second and third trimesters. All procedures were conducted under local anesthesia for primary symptomatic varicose veins of the lower extremities, involving both saphenous and non-saphenous vein basins, as well as combinations thereof. During surgery, all pregnant patients were positioned on the operating table in a supine position with the tabletop tilted 30 degrees to the left. Both lower limbs were flexed at the hip and knee joints at 120 degrees, and the head and chest were elevated at 30 degrees. In this position, we monitored the dynamics of blood pressure (BP) on the brachial arteries, pulse rate, and the presence of clinical manifestations of SHS for 2-3 minutes. **Results.** In 98.3% of the operated pregnant women, no manifestations of SHS were observed. In 1.7% of cases, mild manifestations of SHS were noted, which required an additional tilt of the tabletop to 45 degrees. With this adjustment, BP stabilized to initial levels, and all clinical symptoms in these patients resolved. No pharmacological support was required. **Conclusion.** The proposed positioning of pregnant women on the operating table effectively stabilized blood pressure by minimizing the compression of the terminal abdominal aorta and/or the initial inferior vena cava by the gravid uterus due to its leftward displacement. This improved hemodynamics in these areas. Furthermore, this position proved comfortable for both patients and surgeons, allowing for full surgical intervention while maintaining aseptic and antiseptic protocols. The postoperative period in all operated patients proceeded without any signs of disrupted pregnancy or fetal development. This position can also be recommended for pregnant women in bed to ensure a safe pregnancy and prevent SHS.

## **Keywords**

Pregnancy, Supine Hypotensive Syndrome, Varicose Veins of the Lower Extremities, Surgical Interventions, Local Anesthesia