

Relaxant Effects of *Sideritis raeseri* Extract on the Uterus of Rabbits

Authors : Berat Krasniqi, Shpëtim Thaçi, Miribane Dërmaku-Sopjani, Sokol Abazi, Mentor Sopjani

Abstract : The Mediterranean native plant, *Sideritis raeseri* Boiss. & Heldr. (Lamiaceae), also known as "mountain tea," has a long history of use in traditional medicine. The effects of an ethanol extract of *Sideritis raeseri* (SR) on uterus smooth muscle activity are evaluated in this study, and the underlying mechanism is identified. *S. raeseri* extract (SRE) was made from air-dried components of the SR shoot system. At 37°C, the SRE (0.5-2 mg/mL) was tested on isolated rabbit uterus rings that were suspended in a Krebs solution-filled organ bath and bubbled with a mixture of 95% O₂ and 5% CO₂. The SRE alone relaxed the muscle contraction in a concentration-dependent manner in uterine rings in *in vitro* tests. SRE also decreased Ca²⁺-induced contractions in the uterus by a large amount when the uterus was depolarized with carbachol (CCh, 1µM), K⁺ (80 mM), or contracted by oxytocin (5 nM). The potential involvement of NO-dependent or independent cGMP mechanisms in the uterine actions of SR was investigated. For this purpose, L-NAME (NO synthase inhibitor, 100 M) or bradykinin (NO synthase stimulator, 100 nM), or indomethacin (cyclooxygenase inhibitor, 10µM) decreased the impact of SRE. These results suggest that NO-dependent signaling is involved in SRE's mediated uterine relaxant effect. Data suggests that SRE could be a powerful tocolytic agent that reduces uterine activity and could be used to treat a number of uterine conditions.

Keywords : *Sideritis raeseri*, uterus, alternative medicine, intracellular mechanisms

Conference Title : ICMPNS 2022 : International Conference on Medicinal Plants and Natural Supplements

Conference Location : Athens, Greece

Conference Dates : October 13-14, 2022