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 airdried 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

1