

THERAPEUTIC ADVANCES in *Drug Safety*

Contents

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CONFERENCES (ABSTRACTS FROM CONFERENCES)	9
ORAL COMMUNICATIONS	17
POSTER PRESENTATIONS: PATIENT-CENTERED SAFETY	25

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Abstract-Post-81 Other

Potential activity of withanolides in breast cancer treatment: a systematic review

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Background: Portuguese female population data from 2021 indicate that 31.6% of all tumours were breast cancer (BC), with 8,714 new cases reported [1]. Withanolides, a group of steroidal lactones found in plants such as *Withania somnifera*, *Physalis peruviana*, and *Tubocapsicum anomalum*, exhibit potential anticancer activity and are considered promising compounds for the treatment of BC [2]. **Objectives:** Discuss the effectiveness and the potential mechanisms of action of withanolides in the treatment of BC. **Methods:** Following PRISMA guidelines, a systematic review was conducted to evaluate *in vitro* and *in vivo* activity of natural/synthetic withanolides in BC, using original articles published in English (until December 2024) found in ScienceDirect® and Pubmed® databases and using the keywords “withanolides” and “breast cancer”. **Results:** A total of 34 studies were analysed (24 *in vitro*, three *in vivo*, seven combining both type of approaches), with withaferin A being the predominant compound. The effectiveness of withanolides was evaluated using different approaches, such as cell viability/cell proliferation assays and analysis of apoptosis. The doses of withanolides used in

studies and cancer cell lines (e.g., MCF-7, MDA-MB-231) ranged typically from 2 to 5 μ M (*in vitro* studies) and from 4 to 8 mg/kg (*in vivo* studies). The mechanisms of action included cell cycle arrest (e.g., at the G2/M phase), modulation of oxidative stress, induction of apoptosis, inhibition of cell proliferation. **Conclusions:** Further studies are needed to confirm the results in clinical trials and to assess the potential of this group of steroidal lactones.

Keywords: *Withania somnifera*, withaferin A, breast cancer

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Abstract-Post-82 Other

Access to community pharmacies by rural populations in northeastern portugal

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Background: Rural populations face challenges in accessing medicines and healthcare due to depopulation and geographic isolation. Community pharmacies play a vital role as the main point of care in these regions (1,2,3). **Objectives:** This study aims to explore the accessibility of community pharmacies in rural areas, understand the satisfaction and identify challenges. **Methods:** This is