

Section: MONOGRAPH

Abstract: MON-01

Relationship between versican and non-small cell lung cancer: a systematic review

Luiza Napolitano De Arruda, Pedro José Correia Ferraz, Beatriz Szalontai
Grandolpho, Carina Mucciolo Melo
Centro Universitário FMABC, Santo André, Brazil
luiza.arruda@aluno.fmabc.net

INTRODUCTION: Non-small cell lung cancer (NSCLC) is the most prevalent subtype of lung cancer and accounts for approximately 85% of cases. Despite therapeutic advances, mortality remains high, especially in advanced stages. Versican, an extracellular-matrix proteoglycan, plays important roles in angiogenesis, invasion, and tumor progression, but its role as a biomarker in this disease remains incompletely understood. **OBJECTIVE:** To systematically analyze versican expression and its prognostic and diagnostic relevance among patients with NSCLC. **METHOD:** A systematic review was conducted according to the PRISMA 2020 guidelines using the Cochrane CENTRAL, MEDLINE, SciELO, PubMed, and Virtual Health Library databases from September 2022 to July 2024. Studies analyzing versican expression in patients with NSCLC were included. **RESULTS:** Four studies relating versican expression to NSCLC were identified. Three of the four studies, with samples ranging from 110 to 533 patients, indicated that high versican expression was associated with a worse prognosis in NSCLC. Pirinen et al. (2005) and Soltermann et al. (2008) linked high versican levels to tumor recurrence, greater vascularization, advanced stages, and treatment failure. Chang et al. (2023) associated plasma versican with lymph-node metastases. Only Rangel et al. (2018) observed reduced versican expression in tumor tissue. The findings reinforce versican as a potential prognostic biomarker, consistent with evidence from other cancer types. **DISCUSSION:** Lung cancer is a public health problem. Associations of versican with lymph-node and distant metastases, tumor recurrence, and greater vascular infiltration demonstrate its contribution to NSCLC progression. **CONCLUSION:** Versican shows potential as a prognostic biomarker in NSCLC, but methodological limitations and a lack of standardization across studies highlight the need for future research. Additional studies may explore its clinical applicability and use as a therapeutic target in combination therapies.

KEYWORDS: Versican; Non-small cell lung cancer; Tumor biomarkers; Tumor microenvironment.