



Prognostic role of the cancer stem cell marker CD44 in ovarian cancer: a meta-analysis

Y.Y. Shi^{1,2} and H. Jiang¹

¹Reproductive Medicine Center,
Clinical College of People's Liberation Army Affiliated to Anhui Medical
University, Hefei, China

²Department of Obstetrics and Gynecology,
The Second People's Hospital of Hefei Affiliated to Anhui Medical University,
Hefei, China

Corresponding author: H. Jiang
E-mail: hongjiang62@foxmail.com

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ABSTRACT. This meta-analysis study aimed to investigate the correlation between CD44-positive cancer stem cells (CSCs) and clinicopathological features and its effect on the survival of ovarian cancer patients. A comprehensive literature search in the electronic databases, including PubMed, EMBASE, and Wanfang (up to December 1, 2015), was conducted. Publications assessing the clinical or prognostic significance of CD44 expression in ovarian cancer were identified and reviewed until December 1, 2015. A meta-analysis was then performed to examine the association between CD44 expression and clinical outcomes of ovarian cancer. A total of 8 publications comprising 957 cases satisfied the criteria and were included for this meta-analysis. Our results show that CD44 expression was not significantly associated with the tumor grade (OR = 2.31, 95%CI =

0.61-8.73, $P = 0.22$), age of the patients (OR = 0.89, 95%CI = 0.32-2.53, $P = 0.83$), residual tumor size (OR = 1.01, 95%CI = 0.30-3.40, $P = 0.99$), or response to chemotherapy (OR = 3.49, 95%CI = 0.51-23.65, $P = 0.20$). However, our meta-analyses of the data from the identified studies demonstrate that CD44 expression was significantly correlated with tumor lymphatic metastasis (OR = 2.66, 95%CI = 1.36-5.22, $P = 0.004$), tumor TNM stage (OR = 2.34, 95%CI = 1.76-3.12, $P < 0.00001$), and decreased overall survival for ovarian cancer patients (RR = 1.47, 95%CI = 1.23-1.74, $P < 0.0001$). In conclusion, our findings show that CD44-positive ovarian cancer patients exhibit worse prognosis, which was associated with common clinicopathological features and poor prognostic factors.

Key words: Ovarian cancer; Cancer stem cells; CD44; Outcome; Meta-analysis