

Clinical Impact of Tumoral Intravascular Platelet Aggregation on Prognosis in Ovarian Carcinoma

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Abstract

Introduction: The purpose of this study was to investigate the association between tumor intravascular platelet aggregation and the prognosis of ovarian carcinoma patients.

Method: A total of 144 patients with ovarian carcinoma were enrolled in the current study. A retrospective review of medical records was conducted for each patient. Immunohistochemical staining for CD42b was performed using tissue microarray made with paraffin embedded tissue block to identify intravascular platelet aggregation in ovarian carcinoma. The staining was graded on a grade of 1 to 3 based on presence of platelet aggregation or microthrombus.

Result: Among the enrolled patients, 25 (17.4%) patients showed grade 1 staining (no platelet aggregation), 85 (59.0%) patients showed grade 2 (platelet aggregation), and 34 (23.6%) patients showed grade 3 (microthrombus). Platelet aggregation or microthrombus was more commonly observed in tissues of patients with advanced stage ovarian cancer ($p = 0.002$, Spearman's correlation analysis). Survival analysis showed that patients with intravascular platelet aggregation or microthrombus had a poorer prognosis than those without platelet aggregation (5-year OS: grade 1, 72.0%; grade 2, 55.3%; grade 3, 41.2%; $p = 0.037$).

Conclusion: Tumor intravascular platelet aggregation is associated with poor prognosis in patients with ovarian carcinoma. This result appears to be due to the association of tumor intravascular platelet aggregation with advanced stages.

Keywords

Ovarian carcinoma, platelet aggregation, prognosis.

