

(6)

## **Prognostic value of Nestin, TGFβ1 and epithelial-mesenchymal transition markers in non small cell lung cancer**

1Eman H. Abdelbary, 2Reham SHehab El Nemr Esmail , 3Mohamed Abdelgawad

1Pathology Department, Faculty of Medicine, Zagazig University, Egypt.

2Pathology Department, Faculty of Medicine, El-Fayoum University, Egypt.

3Clinical Oncology and Nuclear Medicine Department, Faculty of Medicine, Zagazig University, Egypt.

### **Abstract**

**Background:** Lung carcinoma is a major trigger of cancer related morbidity and mortality. Better understanding of the clinical and molecular features of NSCLC will lead to development of new therapeutic modalities. EMT is a complex process triggered by various stimuli including TGFβ1. Nestin is an intermediate filament protein that interacts with cytoskeleton components, necessary for cell motility.

**The aim:** This work aims at analyzing the relation between nestin, TGF β1 & EMT and clinicopathological features of non small cell lung cancer, as well as evaluating their role as prognostic factors in these cases.

**Patients and methods:** Nestin, TGFβ1, E-Cadherin & Vimentin proteins were assessed by immunohistochemistry in 43 cases of non small cell lung cancer. They were correlated to patients' clinic-pathological features, progression free survival and overall survival.

**Results:** A significant direct relationship was found between EMT and TNM stage of NSCLC (P-value = 0.018). All of the cases that did not show EMT were negative for Nestin immunohistochemical staining, whereas 72.7% cases with complete EMT were positive for Nestin protein expression (P = < 0.001). Similarly, TGF-β1 immunoreactivity was directly related to EMT (P-value < 0.001). A significant direct relationship was observed between Nestin and TGFβ1 immunopositivity (p-value = 0.001). Kaplan Meier curves interpretation illustrated a highly significant relation between Nestin, TGFβ1 and EMT and PFS of our cases (p-value < 0.001). However, shorter overall patients' survival was related to Nestin and TGF-β1 immunoreactivity, but not to EMT (p-value = 0.022, 0.058 & 0.188 respectively).

**Conclusion:** Nestin and TGFβ1 are strongly associated with EMT. Also, they are promising markers for stratification of NSCLC patients regarding their prognosis.

تم قبول النشر في: المجلة المصرية للباثولوجي

**Accepted for publication in: Egyptian Journal of pathology.**