Sixth International Joint Meeting on THORACIC SURGERY

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11th International Meeting on General Thoracic Surgery
Clínic Barcelona | Universitat de Barcelona | Hospital Universitari Sagrat Cor

5th Meeting of the Thoracic Oncology, Thoracic Surgery, Techniques & Transplant, Respiratory Nursing and Respiratory Physiotherapy Areas of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR)
Sociedad Española de Neumología y Cirugía Torácica (SEPAR)

10th International Workshop on Surgical Exploration of the Mediastinum and Systematic Nodal Dissection
Hospital Universitari Mútua Terrassa | Universitat de Barcelona

10th International Workshop on Surgical Exploration of the Mediastinum and Systematic Nodal Dissection
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3rd Joint Meeting of the Spanish Society of Thoracic Surgery (SECT)
SECT Sociedad Española de Cirugía Torácica

30th Congress of the "Asociación Iberoamericana de Cirugía Torácica" AIACT

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TIM-3 AND GAL-9 EXPRESSION IN PRIMARY NSCLC AND ITS TWO MAJOR HISTOLOGICAL SUBTYPES ADENOCARCINOMA AND SQUAMOUS CELL CARCINOMA

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Objectives
While the T cell immunoglobulin and mucin-domain containing-3 (TIM-3) /Galectin-9 (GAL-9) pathway has emerged as a possible immunotherapy target in cancers, its expression has been understudied in NSCLC.

Material and methods
We investigated TIM-3 and GAL-9 expression on mRNA (ddPCR N=73) and protein level (immunohistochemistry N=59) in primary NSCLC tumour samples.

Results
We observed a strong positive correlation between TIM-3 and GAL-9 mRNA (Spearman correlation test, $r(71) = 0.59$, $p = <.001$) and a low positive correlation between TIM-3 and GAL-9 protein (Spearman correlation test, $r(57) = 0.11$, $p = 0.42$) in NSCLC samples. We also noticed a positive correlation between TIM-3 and PD-1 mRNA levels and TIM-3 and PD-1 proteins on TILs (Spearman correlation test, $r(71) = 0.68$, $p = <.001$; $r(55) = 0.31$, $p = 0.02$ respectively). We did not find differences in TIM-3 and GAL-9 expression on mRNA and protein levels in relation to the tumour stage (TNM staging). After taking into consideration histological subtypes of NSCLC, we noticed a significantly lower expression of TIM-3 (Mann-Whitney U-Test, $p = 0.044$) and GAL-9 (Mann-Whitney U-Test, $p = 0.024$) mRNA in squamous cell carcinoma (N=21) in relation to adenocarcinoma (N=41). Such differences were not observed on the protein level for TIM-3 and GAL-9. In our study, 48 of 59 (81%) NSCLC samples were positive for TIM-3 TILs (≥10%). GAL-9-positive tumour cells (IHC score ≥10) were present in 15 of 59 (25%) samples.

Conclusions
Our results suggest a possible role of this pathway in immunosuppression in NSCLC.