

Corelation of Lymphocytic Infiltrates with the Prognosis of Recurrent Colo-Rectal Cancer

S.T. Makkai-Popa^{1,2}, S. Luncă², G. Dimofte², A. Vrânceanu^{1,3}, D. Franciug⁴, I. Ivanov^{1,5}, F. Zugun⁵, E. Târcoveanu⁶, E. Carasevici⁵

¹PhD student – "Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania

²Second Surgical Oncology Department, Regional Institute of Oncology, Iași, Romania

³Medical Oncology Department, Regional Institute of Oncology, Iași, Romania

⁴Anatomopathology Department, "St. Spiridon" University Hospital, Iași, Romania

⁵Molecular Biology Laboratory, Regional Institute of Oncology, Iași, Romania

⁶First Surgical Department, "St. Spiridon" University Hospital, Iași, Romania

Abstract

Background: Recent studies are focusing on complementary prognostic and predictive markers that could complete the predictive TNM staging and one of the most promising directions is the study of tumor immune infiltrates.

Materials and methods: Our 2-year retrospective study includes resection specimens from the primary tumors of 23 patients presenting to our clinic for a local or a distant relapse after colon or rectal cancer. From every primary tumor specimen we obtained immunohistochemically stained slides in order to assess cd3, cd4, cd8, cd45ro and cd68 infiltrates. Digital analysis assessed the density and percentage of positively stained cells in the normal peritumoral tissue, invasive margin and center of the tumor.

Results: A small density of cd8 positive cells in the peritumoral region was strongly correlated with a longer disease-free interval ($p=0.009$) and the Kaplan-Meier survival analysis showed that the percentage of cd8+ T cells could be used to stratify patients in terms of relapse risk ($p=0.006$). We found no correlation between invasion front infiltrates and intratumoral infiltrates and the disease-free interval.

Conclusion: Our study concludes that cytotoxic T-cell infiltrates in the normal peritumoral tissue could be used to predict a more aggressive tumor in terms of the relapse risk.

Key words: relapse prognosis, colo-rectal cancer, quantitative assessment of immunohistochemical staining, digital image analysis, cytotoxic T cells

Corresponding author: Luncă Sorinel, MD

Second Surgical Oncology Department, Regional Institute of Oncology

General Henri Mathias Berthelot Street

No 2-4, Iași, Romania

E-mail: sdlunca@yahoo.com