

## Comparison of expression of selected proteins in the cells of intestinal and diffuse type gastric cancer – immunohistochemical analysis

Gryko M.<sup>1</sup>, Prycznicz A.<sup>2</sup>, Dawidziuk T.<sup>2\*</sup>, Zińczuk J.<sup>2</sup>, Cepowicz D.<sup>1</sup>, Kamocki Z.<sup>1</sup>, Kędra B.<sup>1</sup>, Guzińska-Ustymowicz K.<sup>2</sup>

<sup>1</sup> 2<sup>nd</sup> Department of General and Gastrointestinal Surgery, Medical University of Białystok, Poland

<sup>2</sup> Department of General Pathomorphology, Medical University of Białystok, Poland

### ABSTRACT

---

**Introduction:** Despite the progress in gaining knowledge about carcinogenesis, it is still unclear what processes are directly responsible for the differentiation of gastric cancer into its intestinal or diffuse form. Dividing of these two forms is based on one of the oldest, yet still commonly used classifications – the classification of Lauren. There are many factors that may influence the formation of gastric tumors of various aggressiveness.

**Purpose:** To evaluate the expression of proteins: fragile histidine triad (FHIT), E-cadherin,  $\alpha$ -catenin,  $\gamma$ -catenin, cathepsin B, epidermal growth factor (EGF), HER-2, MMP-9, MCM-2, Bak, Bax, BID, Bcl-XL, p53, FasL, Bcl-2, caspase-8, procaspase-3 in gastric cancer cells, depending on the type of tumor by Lauren classification.

**Materials and methods:** Study group consisted of 91 patients treated surgically for gastric cancer in

the Second Department of General and Gastroenterological Surgery, Medical University of Białystok in years between 2000 and 2006.

**Results:** It is shown, that the expression of E-cadherin was significantly higher in the Lauren I gastric cancer cells than in Lauren II. In case of caspase-8 there has been significantly less frequent expression of this protein in Lauren I gastric cancer cells compared to Lauren II. The authors describe no statistically significant differences in the expression of other proteins taken into consideration.

**Conclusions:** These results suggest the role of adhesion and apoptosis-related proteins in the development of two different types of gastric cancer according to Lauren's classification.

**Key words:** Gastric cancer, apoptosis, Lauren classification, E-cadherin, apoptotic pathways.

---