SURGICAL AND PROGNOSTIC IMPLICATIONS IN GASTRIC ADENOCARCINOMA BY THE INTEGRATION OF PROTEOMIC MOLECULAR ANALYSIS

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INTRODUCTION: Despite a steady decline in the incidence of gastric cancer (GC) over recent decades, the prognosis remains poor with 5-year survival rates of 21.9% in Europe. The AJCC Cancer Staging Manual (8th Edition) establishes the necessity to evaluate personalized survival models. These models would help in the decision-making process. Proteomic and genomic molecular analyses have provided a more in-depth knowledge of GC.

MATERIAL AND METHODS: 19 patients affected by 21 tumors operated between 2012-2014 were prospectively included. Healthy tissue and tumor samples were taken from each case and deposited in a tissue bio-bank for subsequent proteomic analysis by Proteomics Department.

RESULTS: The following histopathological types were identified: (73.69%) intestinal, (10.52%) diffuse, and (15.78%) undetermined, poorly differentiated, and mixed neuroendocrine of the classification WHO. According to the size and extent of tumor invasion, the percentages of the sample were T1 or T2 (26.31%) and T3 or T4 (73.68%). Furthermore, 57.89% of the patients were found to have lymph-node metastases (N 1, 2, 3 +). After the differences in protein intensities in healthy tissue and tumor tissue were analyzed, it was found that in the healthy tissue, EGFR1, MAPK1 and MAPK3 were predictive variables of overall survival when the tumor stage was T3 or T4

CONCLUSIONS: It would be convenient to redefine the classification and treatment plan in gastric cancer by integrating the study at a molecular level.