

THE DEVELOPMENT OF MODERN DIAGNOSTIC METHODS AND COMBINED THERAPY OF GASTRIC CANCER – NOVELTIES AND CONTROVERSIES

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Introduction. Gastric cancer (GC) is currently one of the most severe malignant neoplasms worldwide with the majority of diagnosed cases in advanced stages. It occupies the 2nd position worldwide as a cause of mortality, and the 4th with respect to malignant neoplasms. In Poland its incidence is currently at the level of 5400 new cases annually, whereas 90% of such cases are in advanced stages. Despite a great development in oncology, results of combined treatment of GC as well as prognosis are still far from satisfactory with about 10–20% of cases having a 5-year survival rate.

Aim. To present the most important data concerning the progress in modern diagnostic methods and combined therapy for GC.

Results and discussion. In the introductory section the most important risk factors in this type of neoplasm are briefly discussed (such as diet, precancerous lesions, role of *Helicobacter pylori* infection, genetic predispositions, and differences in regulatory genes mutations according to Lauren's classification) as well as symptomatology and screening principles in GC. The next section presents the latest achievements in diagnostic imaging techniques – apart from the comparison of CT, NMR and PET scans in gastric tumors, the advantages of virtual gastroendoscopy and endoscopic ultrasonography are discussed. Further the latest data concerning actual clinical investigations in the area of modern molecular prognostic factors are presented, i.e., selected tyrosine kinase receptors, including in particular Her2 and its significance in GC diagnostics and treatment, selected protein products of cell-cycle regulatory genes, markers of angiogenesis, apoptosis, proliferation and metastasing. Finally, modern surgical methods are discussed, including the latest resection techniques of minimally invasive, laparoscopic and extensive surgery methods (e.g., gastrectomy with lymphadenectomy) as well as modern combined chemo-radiotherapy and biological therapies.