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**LONG-TERM OUTCOMES OF RADICAL SURGICAL TREATMENT IN
PATIENTS WITH LOCALLY ADVANCED GASTRIC CANCER**

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Relevance

Gastric cancer remains one of the leading causes of cancer-related mortality worldwide despite significant advances in diagnostic and therapeutic approaches. Radical surgery continues to be the cornerstone of curative treatment for locally advanced gastric cancer (LAGC). However, long-term survival after radical treatment varies considerably among patients with similar TNM stages, suggesting that conventional staging systems alone are insufficient for accurate prognostic assessment. Evaluation of clinicopathological characteristics associated with prolonged survival is essential for optimizing surgical strategies, improving individualized treatment planning, and identifying patients with favorable biological tumor behavior. The analysis of patients who survive more than 10 years after radical treatment represents a unique opportunity to identify prognostic factors influencing long-term outcomes.

Objective of the Study

To evaluate the long-term outcomes of radical surgical treatment in patients with locally advanced gastric cancer and to identify clinicopathological factors associated with prolonged survival.

Materials and Methods

A retrospective study included **267 patients** with locally advanced and disseminated gastric cancer who underwent radical surgical treatment at the **N.N. Blokhin National Medical Research Center of Oncology (Moscow, Russian Federation)** between **1999 and 2011**. The obtained results were further analyzed and implemented in the clinical practice of the **Tashkent**

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Regional Branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology (Uzbekistan).

The study population consisted of **164 men (61.4%)** and **103 women (38.6%)**, with a mean age of **53.8 ± 10.4 years** (range, 24–74 years). According to long-term outcomes, patients were divided into three groups: **62 patients (23.3%)** who survived for more than **10 years**, **106 patients (39.8%)** with survival between **5 and 10 years**, and **99 patients (36.9%)** who survived less than **5 years** after surgery and served as the control group.

Clinicopathological analysis included age, sex, tumor location, **Borrmann** macroscopic classification, **Lauren** histological type, tumor differentiation grade, pathological **TNM** stage, lymph node involvement, extent of surgical resection, and immunohistochemical expression of **Ki-67, VEGFR, p53, and BCL-2**.

Tumor invasion corresponded to **T3 in 42.8%**, **T4a in 36.4%**, and **T4b in 20.7%** of patients. Gastrectomy was performed in the majority of patients and represented the principal radical surgical procedure. Statistical analysis was carried out to determine prognostic factors associated with long-term survival.

Results and Discussion

Among patients with locally advanced gastric cancer, **168 patients (62.9%)** survived for at least **5 years**, while **62 patients (23.3%)** achieved survival exceeding **10 years** after radical surgery. Female patients demonstrated better long-term outcomes than males, and patients younger than **60 years** were significantly more likely to achieve prolonged survival.

Histopathological evaluation showed that the **intestinal type according to Lauren classification** was significantly more common among long-term survivors than diffuse-type gastric cancer. Median overall survival reached **94.7 months** in patients with intestinal-type tumors compared with **51.3 months** in diffuse-type gastric cancer and **15.4 months** in the control group. Well- and moderately differentiated adenocarcinomas (**G1–G2**) were also associated with significantly better long-term outcomes, whereas poorly differentiated tumors (**G3**) demonstrated an unfavorable prognosis.

Radical gastrectomy remained the predominant surgical procedure among long-term survivors, accounting for **88.1%** of patients who survived more than **10 years**. Patients who underwent gastrectomy demonstrated substantially better long-term survival than those treated with subtotal gastric resections. Complete tumor removal with negative resection margins (**R0 resection**) was identified as one of the principal determinants of prolonged survival.

Immunohistochemical analysis demonstrated statistically significant associations between long-term survival and the expression of **Ki-67, VEGFR, p53, and BCL-2** ($p \leq 0.002$). Incorporation of these biomarkers into prognostic assessment improved prediction of long-term outcomes compared with conventional **TNM** staging alone and allowed more accurate identification of patients with favorable and unfavorable prognostic profiles.

The obtained results formed the basis for optimizing multidisciplinary management of gastric cancer patients and were subsequently implemented in the **Tashkent Regional Branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology**, where they are currently used for individualized treatment planning, postoperative surveillance, and prognostic stratification of patients with locally advanced gastric cancer.

Conclusions

Radical surgical treatment remains the cornerstone of long-term survival in patients with locally advanced gastric cancer. Ten-year survival is determined not only by tumor stage but also by a combination of clinicopathological, morphological, and biological factors. Female sex, younger age, intestinal histological type, favorable tumor differentiation, lower lymph node involvement, radical gastrectomy, and favorable immunohistochemical profiles were significantly associated with prolonged survival. The implementation of these findings in the clinical practice of the **Tashkent Regional Branch of the Republican Specialized Scientific**

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and Practical Medical Center of Oncology and Radiology has improved individualized prognostic assessment and contributed to optimizing treatment strategies for patients with locally advanced gastric cancer.

Keywords

Gastric cancer; radical surgery; long-term survival; gastrectomy; clinicopathological factors; prognosis; immunohistochemistry.