Gastric Cancer: Challenges in New Era Treatment Strategy

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Abstract

Gastric cancer (GC) remains a significant global health burden and is among the leading causes of cancer-related mortality worldwide. Although the overall incidence has declined in some regions due to improved hygiene and Helicobacter pylori eradication, GC continues to present major clinical challenges, largely because of late-stage diagnosis, tumour heterogeneity, and limited accessibility to advanced therapeutic options. Over the past five years, significant advances have been achieved in understanding the molecular pathogenesis of GC, identifying novel biomarkers, and refining both early detection and treatment strategies. Recent studies highlight the importance of molecular classification systems, including microsatellite instability, Epstein–Barr virus-associated tumours, and genomically stable versus chromosomal instability subtypes, which have crucial implications for prognosis and personalized therapy. Innovations in endoscopic screening, imaging modalities, and liquid biopsy approaches have enhanced diagnostic accuracy and facilitated earlier intervention. Therapeutically, there has been a shift toward integrating targeted therapies, immunotherapy, and perioperative chemotherapy, improving outcomes in both localized and metastatic disease. Despite these advances, challenges remain in overcoming therapy resistance, addressing disparities in healthcare access, and translating molecular insights into routine clinical practice. This narrative review synthesizes

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contemporary evidence from 2019 to 2024, drawing on 20 high-quality studies and systematic reviews, to provide a comprehensive overview of epidemiology, risk factors, molecular mechanisms, diagnostic strategies, current and emerging therapeutic approaches, and future research directions in GC. By consolidating these findings, this review aims to inform clinicians, researchers, and policymakers about the evolving landscape of gastric cancer management and to identify key areas where further investigation and innovation are required.

Keywords: Gastric cancer, molecular classification, targeted therapy, immunotherapy, early diagnosis