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Epigenetic biomarkers in gastrointestinal cancers: The current state and clinical perspectives

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Abstract

Each year, almost 4.1 million people are diagnosed with gastrointestinal (GI) cancers. Due to late detection of this disease, the mortality is high, causing approximately 3 million cancer-related deaths annually, worldwide. Although the incidence and survival differs according to organ site, earlier detection and improved prognostication have the potential to reduce overall mortality burden from these cancers. Epigenetic changes, including aberrant promoter DNA methylation, are common events in both cancer initiation and progression. Furthermore, such changes may be identified non-invasively with the use of PCR based methods, in bodily fluids of cancer patients. These features make aberrant DNA methylation a promising substrate for the development of disease biomarkers for early detection, prognosis and for predicting response to therapy. In this