cancers

MDPI

Review

Prognostic Factors in Colorectal Liver Metastases: An Exhaustive Review of the Literature and Future Prospectives

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The impact of socioeconomic status in patients with CRLM

Socioeconomic status (SES) plays a significant role in the outcomes of patients with colorectal liver metastases (CLM). Studies indicate that individuals with lower SES tend to have poorer survival rates and are less likely to undergo potentially curative treatments like liver resection (1).

Patients with lower SES are less likely to be referred for and undergo surgical resection of liver metastases, even when the metastases are considered resectable(2).These disparities may be linked to factors like access to specialized care, adherence to treatment recommendations, and delays in diagnosis or treatment (3).

Lower SES is associated with worse overall survival (OS) following diagnosis and treatment for CLM. This disparity is evident even when comparing outcomes after surgical resection.

Socioeconomic factors significantly influence both the treatment and survival outcomes of patients with colorectal liver metastases. Addressing these disparities through improved access to care, targeted interventions, and awareness campaigns is crucial for ensuring equitable outcomes for all patients with CRLM.

The Charlson Comorbidity Index in patients with CRLM

The Charlson Comorbidity Index (CCI)(4) is widely used to quantify comorbidity burden and predict overall survival in oncology patients, including those with colorectal liver metastases (CRLM). The index assigns weighted scores to chronic conditions, with higher total scores indicating increased mortality risk. Several studies have demonstrated that higher CCI scores correlate with poorer survival outcomes in CRLM cohorts(5). For example, age-adjusted CCI ≥2 was independently associated with reduced overall survival in a large propensity-matched series of CRLM patients, showing a hazard ratio (HR) of approximately 1.25 per comorbidity point . Additionally, a single-center study including older CRLM patients found that elevated CCI significantly predicted postoperative mortality, with a multivariate HR of 5.2 for scores ≥2 . Moreover, CCI demonstrated superior prognostic accuracy over other comorbidity indices in colorectal cancer populations. In recognition of this, several MDT guidelines recommend

incorporating comorbidity scoring into preoperative evaluation to optimize risk stratification and individualized treatment planning(6).

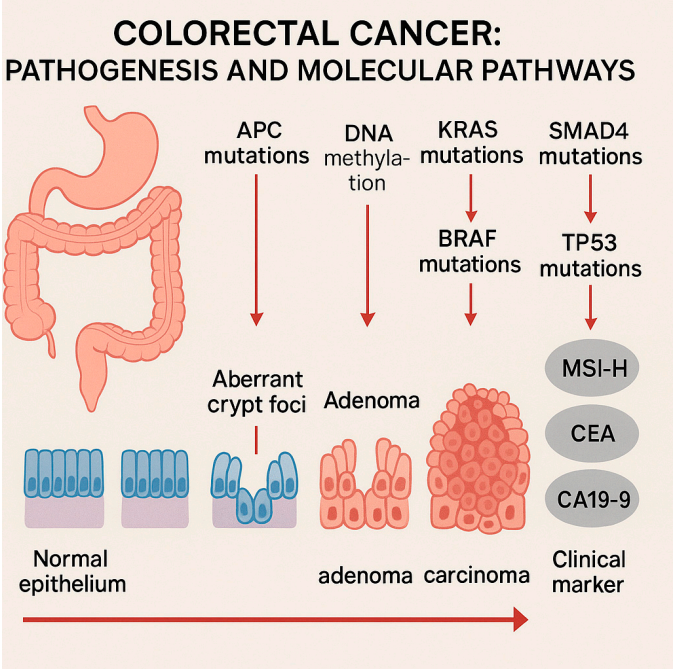


Figure S1. Colorectal cancer (CRC) pathogenesis and molecular pathways, showcasing key drivers alongside clinical markers.

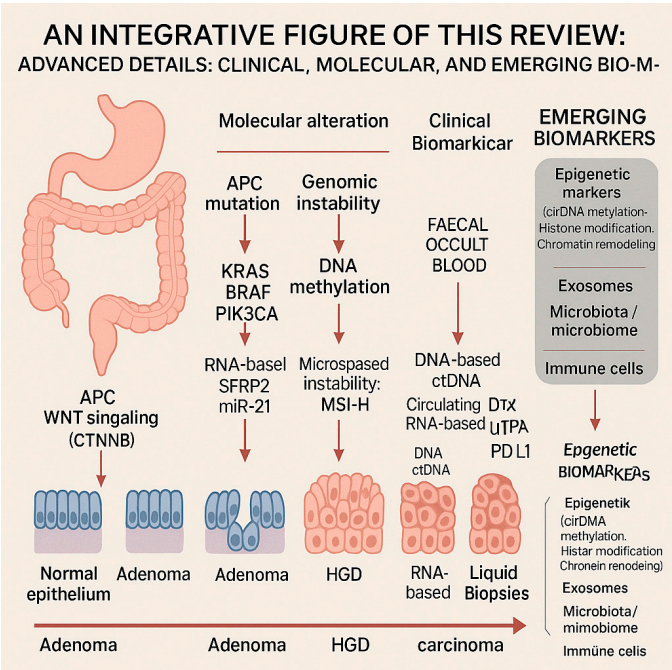


Figure S2. Clinical, molecular, and emerging biomarkers in CRC.

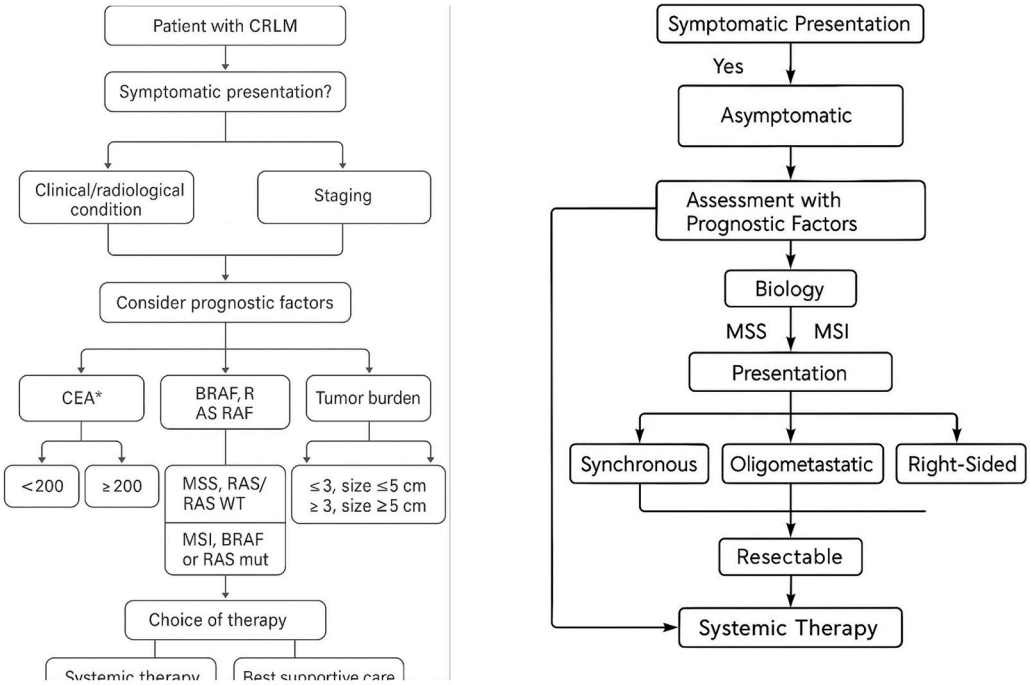


Figure S3. The impact of prognostic factors on the decisional algorithm in CRLM.

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