

Mucosal Ulceration in Gastrointestinal Stromal Tumor is an Independent Predictor of Progression-Free Survival

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Introduction: Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal (GI) tract. Known prognostic features of GISTs include tumor mitotic rate, size, and location, yet one common feature of primary GISTs for which prognostic significance is unknown, is mucosal ulceration. This study aims to investigate the significance of mucosal ulceration in GISTs.

Materials and methods: A retrospective study was conducted of 513 patients at a tertiary referral center with a suspected or documented diagnosis of primary GIST between the years of 2000 and 2020. Ulceration was confirmed by definitive documentation in the endoscopic or histopathologic report. The significance of ulceration in GIST was compared to other prognostic factors.

Results: Of the 513 patients reviewed, 310 primary GIST patients with known ulceration and disease status were identified. Of those, 27.4% (n = 85) demonstrated mucosal ulceration. Mucosal ulceration in GISTs is associated with GI bleeding, mitotic rate, tumor size, and exon 11 mutations. After a median follow-up of 35.4 (interquartile range = 17.1-62.2) mo, patients with ulcerated GISTs experienced higher rates of tumor progression (40.0% versus 14.2%, $P < 0.0001$). In multivariate analysis, ulceration of GISTs was highly associated with disease progression ($P < 0.0001$) and progression-free survival (hazard ratio = 2.4 [1.2-4.7], $P = 0.01$).

Conclusions: Mucosal ulceration in GISTs is associated with GI bleeding, mitotic rate, tumor size, and exon 11 mutations. Overall, ulceration in GISTs is associated with elevated risk of tumor progression and is an independent prognostic factor. In multivariate analysis, ulceration in GIST remains an independent risk factor for disease progression.

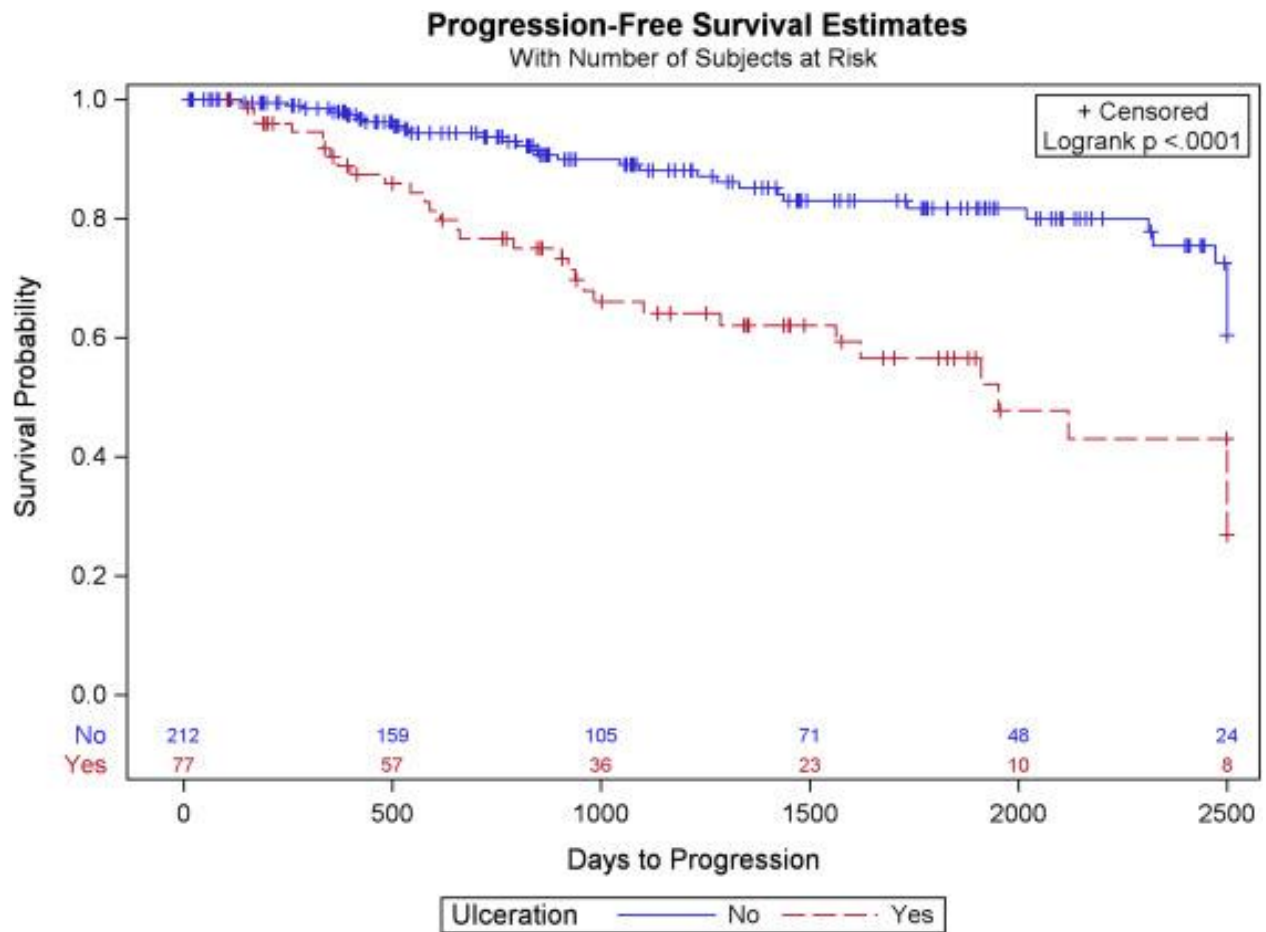


Figure 1. Progression Free Survival by Kaplan–Meier analysis of patients with and without ulcerated GIST.