ORIGINAL ARTICLE

Predictive value of CT morphological features for risk stratification of gastrointestinal stromal tumors: independent dual-reader analysis

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Summary

Background: Gastrointestinal stromal tumors (GISTs) exhibit variable biological behavior, from indolent lesions to aggressive tumors with metastatic potential. Preoperative risk assessment is important for treatment planning. Therefore, this study evaluated the predictive value and reproducibility of CT morphological features in identifying high-risk GISTs using independent dual-reader analysis.

Materials and Methods: This retrospective study included 26 patients with histopathologically confirmed gastric GISTs who underwent biphasic contrast-enhanced MDCT. Two radiologists independently evaluated CT morphological features, including tumor size, mucosal integrity, internal structure, shape, growth pattern, and enlarged feeding or draining vessels (EFDV). Based on disrupted mucosa and EFDV, tumors were stratified into high-risk (HR) and low-risk (LR) groups and correlated with histopathological findings.

Results: Histopathological analysis confirmed HR GISTs in 10 and LR GISTs in 16 patients. Excellent interobserver agreement was observed for mucosal integrity (κ=0.843) and tumor structure (κ=0.923), with substantial agreement for EFDV and growth pattern, and moderate agreement for tumor shape and predicted risk. Both radiologists demonstrated high sensitivity (90%) for identifying HR GISTs. Larger tumor size, disrupted mucosa, heterogeneous structure, irregular shape, endophytic growth, and EFDV were associated with HR tumors, although specificity remained limited due to overlapping imaging features.

Conclusion: CT-derived morphological features are valuable imaging biomarkers for preoperative risk stratification of gastric GISTs. Disrupted mucosa and enlarged peri-/intratumoral vessels were the strongest predictors of high-risk tumors. Despite overlapping imaging features between low- and high-risk lesions, conventional CT analysis may aid in identifying aggressive tumors and guiding treatment planning.

Keywords: GIST, computed tomography, morphological features, risk stratification, high-risk GIST

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INTRODUCTION

Gastrointestinal stromal tumors (GISTs) represent the most common mesenchymal tumors of the gastrointestinal tract, accounting for approximately 0.1–3% of all gastrointestinal neoplasms (1). Epidemiological studies report an annual incidence of 14.5 cases per million and a prevalence of 129 cases per million population (2). The majority of GISTs arise in the stomach (around 60%), although they may occur anywhere along the gastrointestinal tract (3). These tumors are most commonly diagnosed in older adults, although they may occur at any age (4).

GISTs exhibit a wide spectrum of biological behavior, ranging from indolent lesions to highly aggressive tumors with significant metastatic potential, most commonly involving the liver and peritoneum. The current standard for risk assessment is based on postoperative pathological evaluation, including tumor size, mitotic index (expressed as the number of mitoses per 5 mm^2), tumor location, and tumor rupture (5). Established classification systems, such as the Armed Forces Institute of Pathology (AFIP) and the American Joint Committee on Cancer (AJCC TNM) classification, stratify tumors into low-, intermediate-, and high-risk categories (6–8). However, a key limitation of these systems is their reliance on postoperative data, which restricts their applicability in preoperative clinical decision-making (9).

Diagnostic procedures used in patients with suspected GISTs include abdominal ultrasonography, computed tomography (CT), magnetic resonance imaging (MRI), endoscopy with or without endoscopic ultrasound (EUS), and, less frequently, biopsy due to the increased risk of bleeding.

Surgical resection remains the cornerstone of treatment for localized gastric GISTs. At the same time, tyrosine kinase inhibitors such as imatinib are used in advanced disease and as adjuvant therapy in patients with high-risk tumors (5). Increasingly, neoadjuvant therapy is considered in selected patients, particularly when tumor downsizing could facilitate less extensive surgical procedures and reduce perioperative morbidity.

In this context, preoperative imaging, particularly multidetector computed tomography (MDCT), plays a crucial role in the evaluation of GISTs. CT enables detailed assessment of tumor morphology, including size, shape, margins, internal structure, mucosal integrity, growth pattern, and vascular characteristics. These morphological features reflect the underlying tumor biology and may provide valuable insight into tumor aggressiveness.

Previous studies have demonstrated that specific CT morphological characteristics correlate with metastatic risk in GISTs (10–13). Larger tumor size, irregular or lobulated contours, heterogeneous internal structure with areas of necrosis or cystic degeneration, discontinuity of the overlying mucosa, and the presence of enlarged feeding or draining vessels have all been associated with high-risk GISTs. These imaging features likely reflect increased proliferative activity, structural disorganization, and tumor-induced neovascularization, which are hallmarks of aggressive tumor behavior.

Therefore, identifying reliable CT-based morphological predictors of high-risk GIST represents an important step toward non-invasive preoperative risk stratification. Such an approach could enable earlier identification of patients who may benefit from neoadjuvant therapy and more individualized treatment planning.

Recent advances in imaging analysis, including quantitative approaches and radiomics, have further explored the potential of CT-derived features as imaging biomarkers; however, conventional morphological assessment remains the most accessible and clinically applicable method in routine practice (14,15).

This study aimed to evaluate whether CT-derived morphological parameters, previously identified as statistically significant predictors of high-risk GISTs, can serve as reliable imaging biomarkers for preoperative risk stratification and to assess their reproducibility through independent dual-reader analysis. Additionally, the study aims to correlate imaging findings with histopathological parameters, particularly the mitotic index (14,15).

MATERIAL AND METHODS

Patients

This is a retrospective study including 26 patients with suspected gastric GISTs who underwent surgery at the First Surgical Clinic of the University Clinical Center of Serbia between March 2023 and July 2025. At the Department of Digestive Radiology, Center for Radiology, University Clinical Center of Serbia, a conventional biphasic contrast-enhanced abdominal CT scan was performed, with tumor characteristics analyzed to assess the potential metastatic risk. Through histopathological analysis of surgically resected tumors, the mitotic index was determined, and after immunohistochemical analysis, a definitive diagnosis of GIST was established, after which the tumor was classified into a corresponding risk group.

Inclusion criteria consisted of properly protocolled abdominal CT imaging, surgical intervention, and histopathological and immunohistochemical confirmation of GISTs with an assigned metastatic risk category. Exclusion criteria included patients who were not diagnosed with GIST based on immunohistochemical analysis of the resected tumor.

All patients admitted to the First Surgical Clinic for surgery provided informed consent for both the surgical procedure and all preoperative diagnostic evaluations. The study was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the Ethics Committee of the University Clinical Center

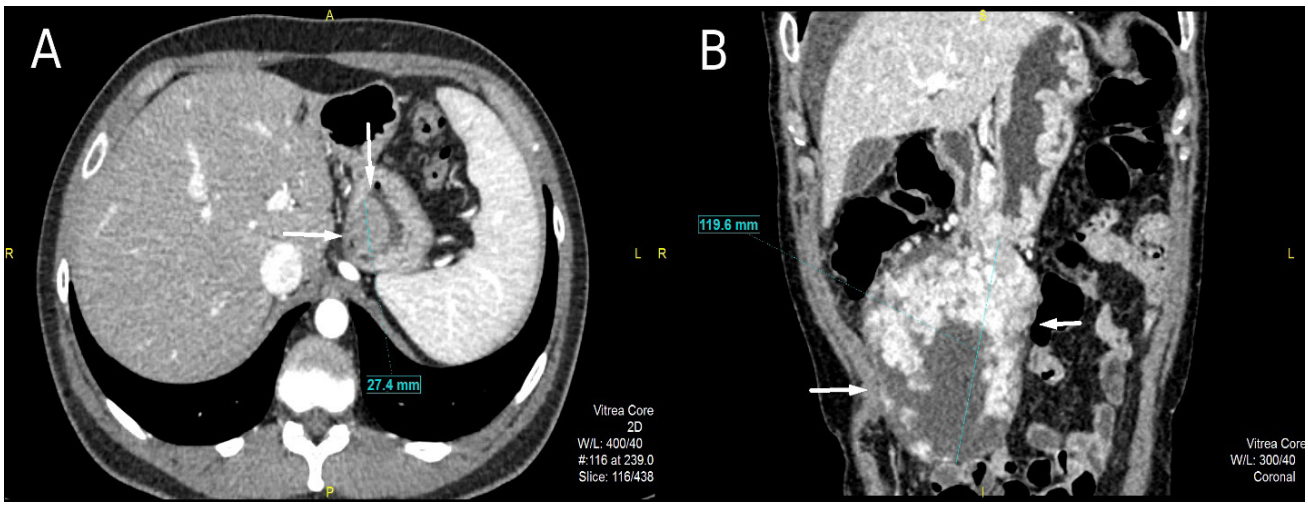

Figure 1. Tumor diameter

of Serbia (approval number 1880/69; date of approval 25.12.2025).

CT imaging of the abdomen

CT imaging was performed using a 64-slice multidetector computed tomography (MDCT) scanner (Aquilion ONE, Toshiba Medical Systems, Otawara, Japan). Immediately before the examination, patients were given 250-500mL of water orally as negative contrast to ensure adequate gastric distension. Abdominal CT imaging was performed in a standardized manner following intravenous administration of 60-100mL iodinated contrast (1-1.5mL/kg body mass), during both the arterial and portovenous phase.

Analysis of morphological CT characteristics of the tumor

Based on earlier research, morphological characteristics such as diameter, integrity of the mucosa, tumor structure, shape, growth pattern, the presence of enlarged feeding or draining vascular structures (EFDV), as well as the margins of the lesion were found to be statistically significant in the prediction of metastatic risk of GIST **(Figure 1-5)** (14,15). In this study, we assessed the agreement between two radiologists in identifying morphological tumor characteristics that are significant for predicting HR GIST. Similarly, in an earlier study of 79 patients, a predictive model was developed using multivariate regression that identified disrupted mucosa and the presence of EFDV as independent predictors of high-risk GIST (15). The 26 patients included in the present study were enrolled between March 2023 and July 2025. They did not overlap with the derivation cohort of that earlier 79-patient study, so the present analysis represents an independent temporal validation of this two-feature rule (15). Preoperative risk stratification of presented tumors was established by independent analysis of these two CT parameters by two radiologists who were blinded to postoperative histopathologic findings (Radiologist 1, A.DJ-S, with 25 years of experience in abdominal radiology, and Radiologist 2, A.J, with 9 years of professional experience) and correlated with the final histopathological diagnosis as the reference standard.

Pathological analysis

The definitive diagnosis of GIST can be confirmed only by pathohistological analysis of the resected tumor, following standard protocols for fixation in 10% formaldehyde and paraffin embedding, with hematoxylin and

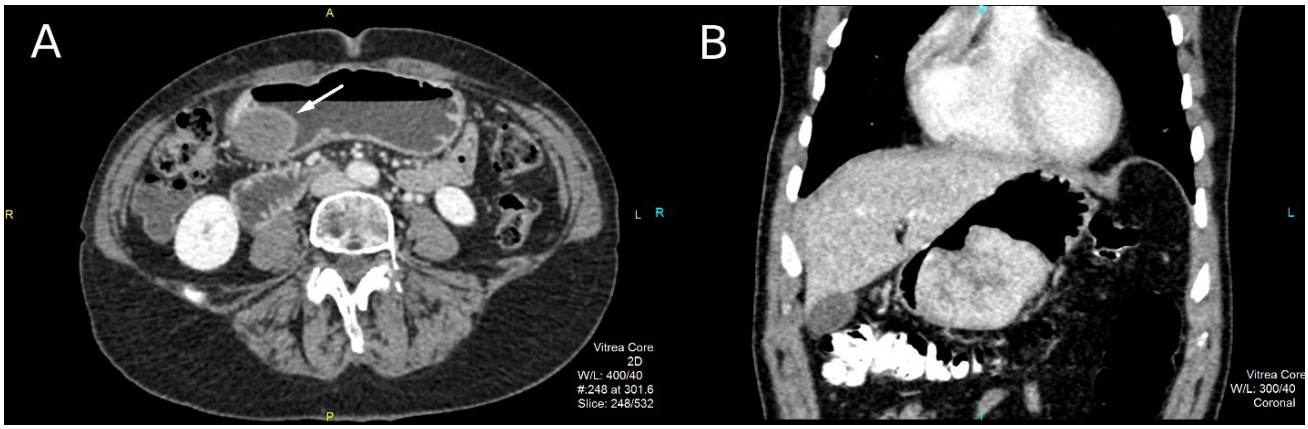

Figure 2. Here is the representation of continuous (A) and discontinuous mucosal appearance (umbilication) (B)

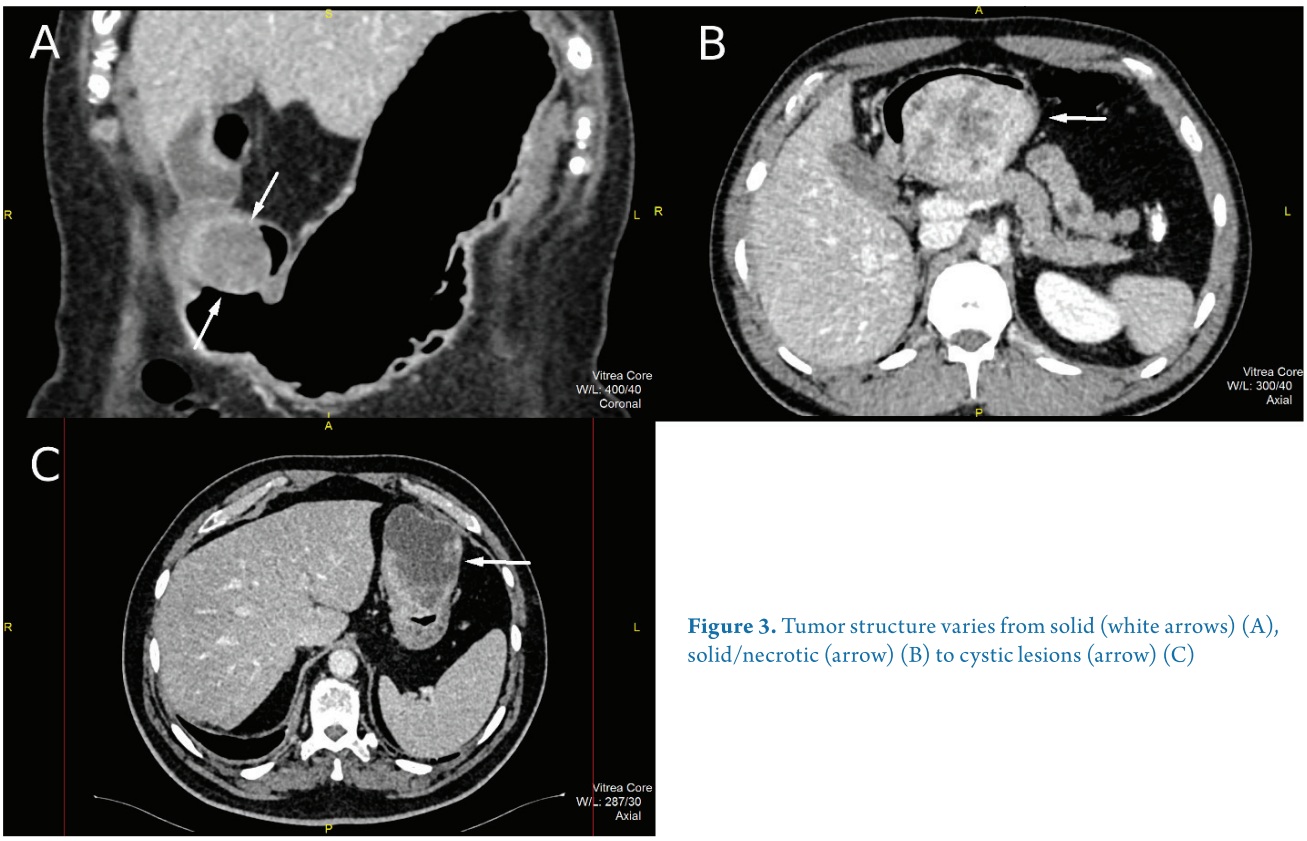

Figure 3. Tumor structure varies from solid (white arrows) (A), solid/necrotic (arrow) (B) to cystic lesions (arrow) (C)

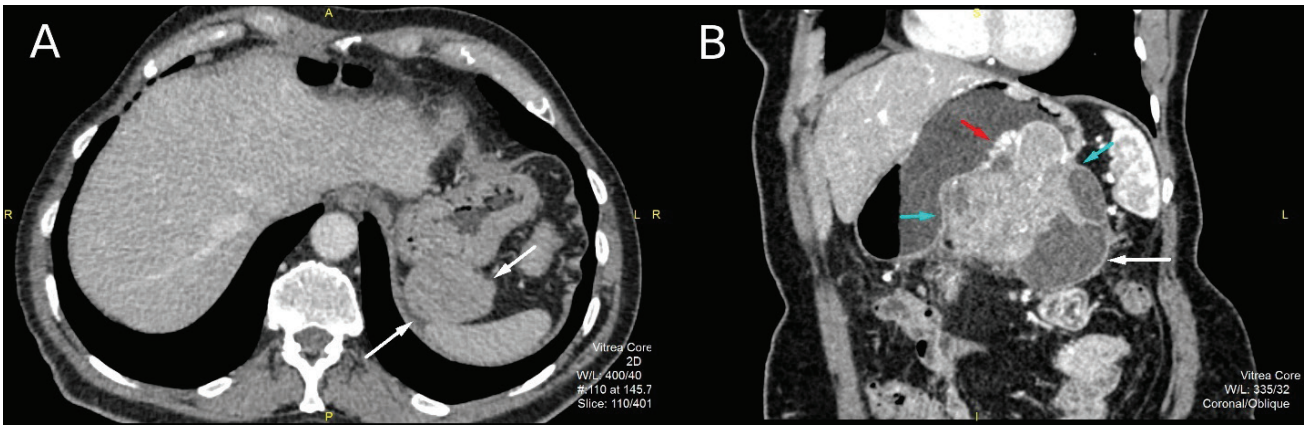

Figure 4. Tumor shape was categorized as regular, i.e., round or oval (A) or irregular (B). Apart from the irregular shape (blue arrow), we distinguish discontinuous mucosa (red arrow) and cystic tumor degeneration (white arrow) (B).

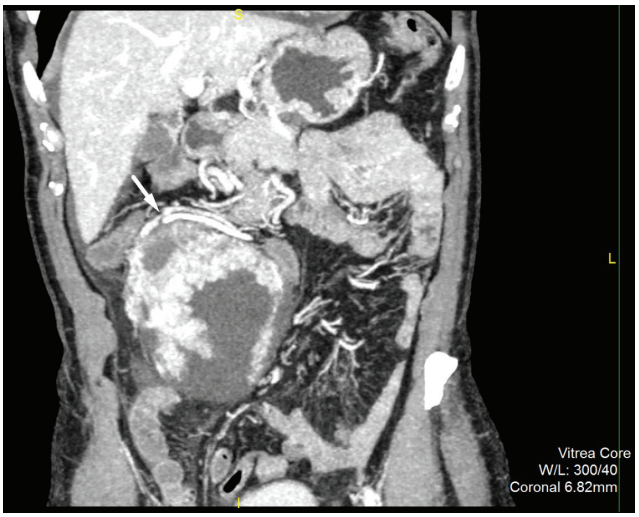

Figure 5. This image shows enlarged feeding or draining vascular structures (EFDV).

eosin (H&E) staining. Most GISTs express specific immunohistochemical markers, including C-KIT (95%), DOG1 (98%), and CD34 (70%) (16). Pathohistological and immunohistochemical examinations represent the gold standard for establishing a definitive diagnosis.

Risk estimation of gastric gastrointestinal stromal tumors

In this research, risk stratification is based on two key classification systems. The standard classification method for risk assessment is the American Joint Committee on Tumor/Lymph Node/Carcinoma Metastases (TNM) classification (8). Additionally, for our literature, the Armed Forces Institute of Pathology (AFIP) classification is important, in which the most important prognostic factors are tumor diameter, mitotic index, and

localization (6). The mitotic index cut-off point associated with lower metastatic risk is defined as 5 or fewer mitoses per 5 mm^2 or 50 HPF. Based on these classifications, as well as factors such as mitotic index, tumor size, intraoperative rupture, and presence of lymphatic, hepatic, or peritoneal metastasis, tumors are categorized into four risk groups.

In this study, we further subclassified our patients into two groups. The first group consisted of patients who had high-risk GIST (HR GIST) (high and intermediate risk), while the second one included patients with low-risk GIST (LR GIST). For preoperative risk assessment in this research, inclusion in the high-risk GIST group required the presence of disrupted mucosa and peritumoral vascular structures, both independent predictive factors of HR GIST.

STATISTICAL ANALYSIS

Assessment of the normality of distribution of numerical parameters was performed using the Shapiro-Wilk test. Normally distributed parameters were presented as mean value ± SD. Agreement between the two radiologists in assessing the predefined morphological characteristics of the tumor was assessed using the Kappa coefficient (κ), as was agreement between the predicted and histologically confirmed metastatic risk. The dependent-samples T test was used to test the agreement between two radiologists in measuring the maximal tumor diameter. Receiver Operating Characteristic (ROC) analysis was performed, and sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy of the predefined multiregression model for predicting HR GIST were calculated for each radiologist's analysis. A tumor was classified as high-risk only when both predictive features (disrupted mucosa and EFDV) were simultaneously present; as this yielded a single binary decision per reader, the area under the ROC curve was calculated as the single-point ROC area, (sensitivity + specificity)/2. Ninety-five percent confidence intervals were calculated for all diagnostic performance metrics and for each κ coefficient. Kappa values were interpreted according to Landis and Koch (κ < 0.20 slight, 0.21–0.40 fair, 0.41–0.60 moderate, 0.61–0.80 substantial, and 0.81–1.00 almost perfect agreement) (17). No data were missing for the analyzed variables. Statistical analyses were performed using IBM SPSS Statistics, and a two-sided p-value < 0.05 was considered statistically significant.

RESULTS

This study included 26 patients with histopathologically confirmed gastric gastrointestinal stromal tumors (GISTs), including 13 males and 13 females, with a mean age of 68 ± 13 years. According to histopathological risk stratification, 10 patients were classified as having high-risk GISTs (HR GIST), while 16 patients belonged to the low-risk group (LR GIST).

Tumor size measurements demonstrated high consistency between the two readers (p=0.214). Reader 1 reported a mean tumor diameter of 59.50 mm (range 30–100 mm), whereas Reader 2 measured a mean diameter of 58.19 mm (range 30–100 mm).

The evaluated CT morphological characteristics included disrupted mucosa, tumor structure, tumor shape, growth pattern, and the presence of enlarged feeding or draining vessels (EFDV). Interobserver agreement for individual CT morphological features is presented in **Table 1**.

Table 1. Interobserver agreement between two radiologists based on assessment of CT morphological features.

CT characteristics	Kappa	P value
Disrupted mucosa	0.843 (95% CI 0.63–1.00)	<0.001
Solid structure	0.923 (95% CI 0.78–1.00)	<0.001
Irregular shape	0.601 (95% CI 0.26–0.95)	<0.002
Growth pattern	0.693 (95% CI 0.41–0.97)	<0.001
Tumor supplying blood vessels	0.687 (95% CI 0.40–0.97)	<0.001

Excellent agreement was observed for the assessment of disrupted mucosa (κ = 0.843, p < 0.001) and solid tumor structure (κ = 0.923, p < 0.001). Substantial agreement was also achieved for tumor growth pattern (κ = 0.693, p < 0.001) and the presence of enlarged feeding or draining vessels (κ = 0.687, p < 0.001). Moderate agreement was observed in the assessment of irregular tumor shape (κ = 0.601, p = 0.002).

Agreement between preoperative CT-based risk stratification and definitive histopathological findings demonstrated good diagnostic performance for both radiologists **(Table 2)**.

Radiologist 1 (R1) achieved a sensitivity of 90%, specificity of 69%, positive predictive value (PPV) of 64%, negative predictive value (NPV) of 92%, and overall diagnostic accuracy of 77%. In comparison, radiologist 2 (R2) demonstrated a sensitivity of 90%, specificity of 56%, PPV of 56%, NPV of 90%, and diagnostic accuracy of 69% in assessing the HR GIST.

The area under the ROC curve (AUC), calculated as (sensitivity + specificity)/2 for the binary high-versus low-risk classification, was 0.795 (95% CI 0.65–0.94) for R1 and 0.731 (95% CI 0.58–0.88) for R2, indicating acceptable discriminatory ability of CT morphological assessment in differentiating HR from LR GISTs.

Few discrepant cases were identified, predominantly false-positive high-risk assessments (5 for R1, and 7 for R2), while only one case of false-negative for both readers **(Figures 6, 7, 8, and 9)**.

Table 2. Agreement of preoperative CT-based risk stratification according to the predefined multiregression model, with histopathological findings as the gold standard, and diagnostic performance in preoperative assessment of the HR GIST for two readers

	Kappa	P value	AUC	Sensitivity	Specificity	PPV	NPV	Accuracy
Radiologist 1	0.547 (95% CI 0.24–0.85)	0.003	0.795 (95% CI 0.65–0.94)	90% (95% CI 60–98)	69% (95% CI 44–86)	64% (95% CI 39–84)	92% (95% CI 65–98)	77% (95% CI 58–89)
Radiologist 2	0.416 (95% CI 0.11–0.72)	0.018	0.731 (95% CI 0.58–0.88)	90% (95% CI 60–98)	56% (95% CI 33–77)	56% (95% CI 33–77)	90% (95% CI 60–98)	69% (95% CI 50–84)

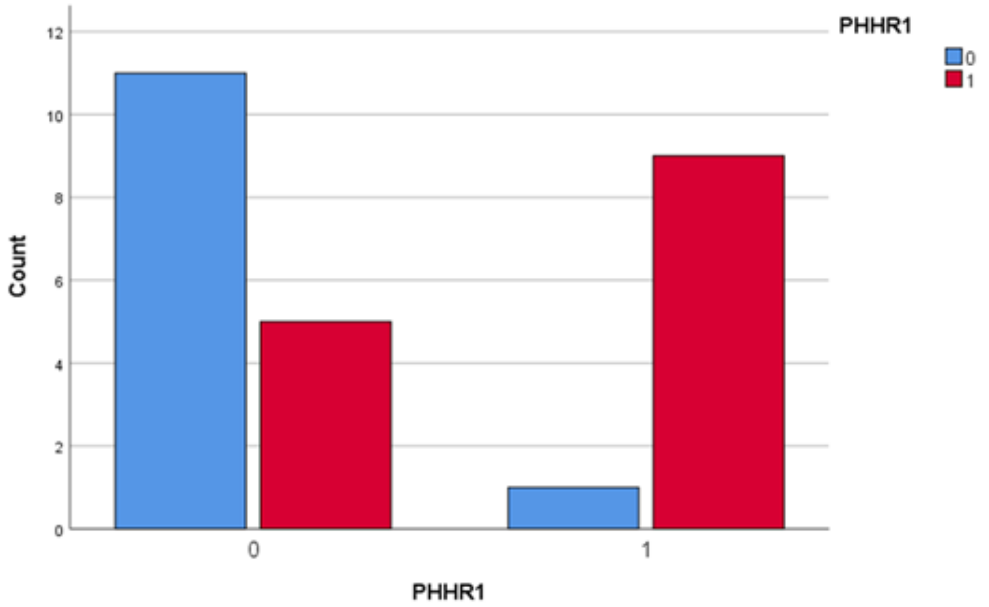

Figure 6. The bar chart demonstrates the relationship between the Reader 1 preoperative assessment and the predictive model–based risk stratification of GISTs (Radiologist 1).

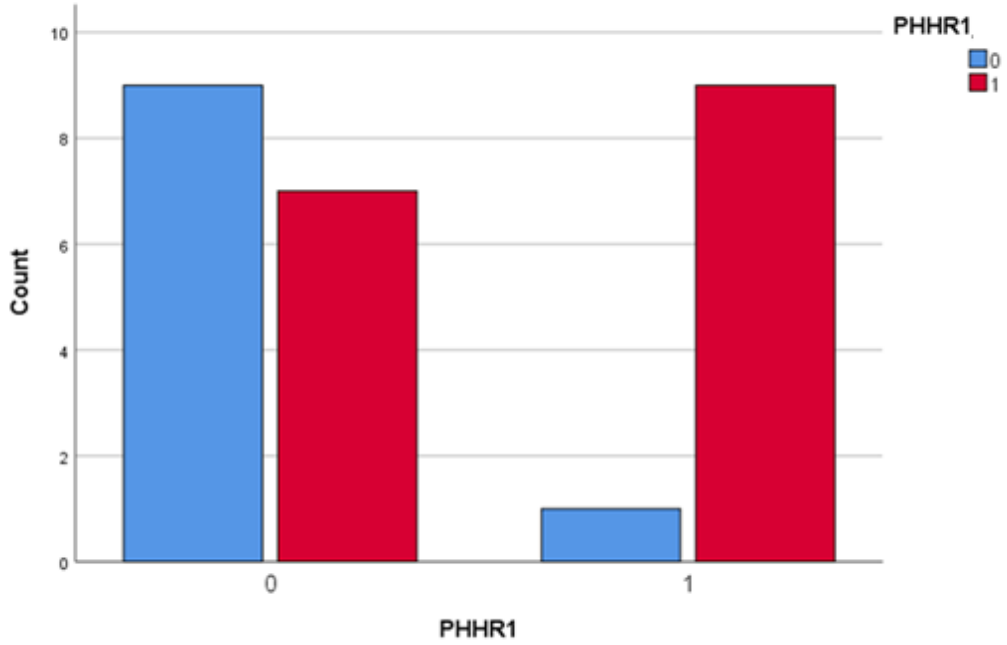

Figure 7. The bar chart demonstrates the relationship between the Reader 2 preoperative assessment and the predictive model–based risk stratification of GISTs.

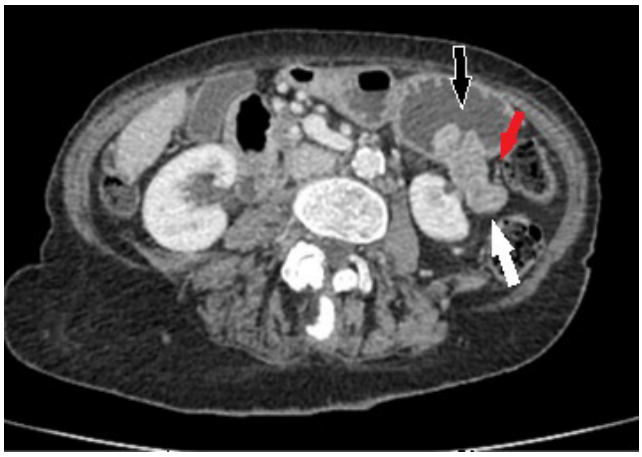

Figure 8. Axial CT scan shows a clearly demarcated submucosal, solid lesion with discontinuous mucosa (black arrow), irregular shape, and mixed growth pattern (white arrow) with accentuated peritumoral vascular structures (red arrow) on the greater curvature of the antropyloric region of the stomach. It was assessed as HR GIST, while histopathological and immunohistochemical analysis indicated low-risk GIST.

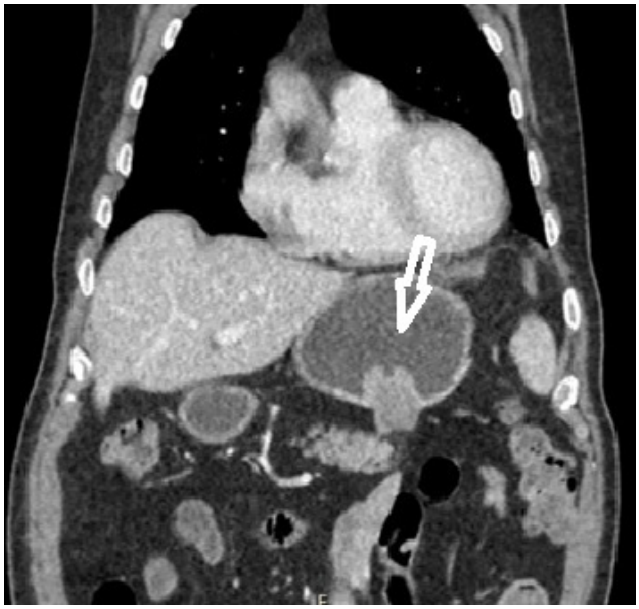

Figure 9. Coronal reconstruction of the CT exam demonstrates a submucosal, solid lesion with a mucosal defect without EFDV that initially was categorized as LR GIST, while histopathological analysis indicated HR GIST.

DISCUSSION

The present study demonstrates that conventional CT-derived morphological features may provide valuable information for the preoperative identification of high-risk gastric gastrointestinal stromal tumors. In earlier derivation studies, tumor diameter, disrupted mucosal integrity, heterogeneous internal structure, irregular tumor shape, endophytic growth pattern, and the presence of enlarged feeding or draining vessels were significantly associated with high-risk GISTs. In the present 26-patient cohort, these individual-feature–histopathology associations were not reassessed, and the analysis instead focused on interobserver reproducibility and on validating the previously derived two-feature rule (disrupted mucosa and enlarged feeding or draining vessels) (14,15). Among these parameters, disrupted mucosa and enlarged peri-/intratumoral vessels showed the greatest clinical relevance, supporting their role as independent imaging predictors of aggressive tumor behavior (12,14,15,18).

An important finding of this study is the relatively high reproducibility of conventional CT morphological assessment between two independent radiologists. Excellent interobserver agreement was achieved in assessing mucosal integrity and tumor structure, while substantial agreement was observed for tumor vascularity, growth pattern, and overall risk prediction. These findings suggest that the analyzed CT features are sufficiently recognizable and reproducible in routine clinical practice, despite the inherent subjectivity of visual image interpretation. The observed agreement is comparable to previous reports evaluating inter-reader consistency in CT assessment of GISTs (19).

Both radiologists demonstrated high sensitivity (90%) in identifying high-risk tumors, indicating that CT morphology may be particularly useful in excluding aggressive disease when high-risk imaging features are absent. In contrast, specificity remained moderate, mainly due to false-positive classifications. This finding reflects the substantial overlap of imaging characteristics between low-risk and high-risk tumors. Several histopathologically low-risk lesions demonstrated aggressive imaging features, including mucosal disruption, irregular contour, heterogeneous enhancement, or prominent tumor vessels. Such discrepancies likely reflect the biological heterogeneity of GISTs, where morphologic aggressiveness on imaging does not always correlate directly with mitotic activity. Consequently, CT-based morphological assessment appears more reliable in identifying clearly aggressive tumors than in accurately differentiating borderline lesions.

Tumor size remains one of the most established predictors of malignant potential and is incorporated into all major pathological risk stratification systems (6,11). Although many previous studies proposed a threshold of 5 cm for differentiating low- and high-risk lesions, tumors in our cohort classified as high risk were generally larger, further supporting the association between increasing tumor size and aggressive biological behavior (6,11,18). Larger tumors are more likely to exhibit necrosis, hemorrhage, cystic degeneration, and increased vascular demand, leading to more complex and heterogeneous CT appearances.

Disrupted mucosal integrity was one of the strongest predictors of high-risk disease in our study. This finding is consistent with previous investigations demonstrating that mucosal ulceration reflects invasive growth and increased tumor aggressiveness (19). From a pathophysiological perspective, mucosal disruption likely occurs secondary to rapid tumor enlargement and ischemic compromise of the overlying mucosa. Similarly, irregular

tumor contours and heterogeneous internal structure were more frequently observed in high-risk tumors, probably reflecting structural disorganization, necrosis, hemorrhage, and accelerated tumor proliferation (10–15,19,21).

The presence of enlarged feeding or draining vessels also demonstrated important predictive value. Increased tumor vascularity probably reflects neovascularization associated with elevated metabolic and proliferative activity. Similar observations were reported by Grazzini et al., who identified enlarged tumor vessels as a significant predictor of higher metastatic risk (12). In our study, this feature also demonstrated substantial interobserver agreement, additionally supporting its practical applicability in routine CT interpretation.

Although the growth pattern showed lower reproducibility than other morphological parameters, endophytic growth was more frequently associated with high-risk tumors in our cohort. This observation may indicate that deeply infiltrative growth behavior is associated with increased biological aggressiveness; however, the relatively moderate agreement among readers suggests that growth pattern classification may remain partially subjective (22,23).

One of the most important observations of this study is that conventional CT morphology is more reliable for identifying clearly aggressive tumors than for accurately differentiating borderline lesions. Both radiologists generally recognized tumors with overtly aggressive features, whereas lesions with intermediate or overlapping morphology accounted for most diagnostic discrepancies. Similar observations have been reported in previous studies, in which CT morphological criteria demonstrated good sensitivity but limited specificity for risk stratification (10–13,20). Therefore, although conventional CT morphological analysis cannot completely replace pathological risk assessment, it remains a practical, widely available imaging approach that may significantly contribute to the early identification of potentially aggressive tumors.

From a clinical perspective, reliable preoperative identification of high-risk GISTs may significantly influence therapeutic planning. Patients with suspected aggressive tumors may benefit from additional diagnostic evaluation, closer multidisciplinary assessment, or consideration of neoadjuvant tyrosine kinase inhibitor therapy. Early recognition of high-risk lesions may facilitate tumor downsizing, enable less extensive surgical procedures, and reduce perioperative morbidity (5,9).

Several limitations of this study should be acknowledged. First, the study included a relatively small number of patients from a single institution, which may limit the generalizability of the results. Second, the retrospective design introduces potential selection bias. Additionally, histopathological risk stratification was simplified into low- and high-risk categories, which may not fully reflect the biological spectrum of GISTs. Finally, conventional morphological analysis remains inherently subjective despite predefined imaging criteria, as reflected by moderate interobserver agreement for several CT parameters (20,24).

CONCLUSION

Nevertheless, this study's results confirm that CT-derived morphological features are valuable imaging biomarkers for preoperative risk stratification of gastric GISTs. In particular, tumor diameter, disrupted mucosal integrity, heterogeneous internal structure, irregular contour, and enlarged peri-/intratumoral vessels have shown association with high-risk tumors. An independent assessment by two radiologists demonstrated substantial reproducibility of conventional CT-based morphological analysis, supporting its applicability in routine clinical practice. Although overlap in imaging features between low-risk and high-risk lesions limits the specificity of individual CT characteristics, routine contrast-enhanced CT evaluation remains clinically valuable for recognizing potentially aggressive tumors. It may contribute to individualized treatment planning, including selecting patients for neoadjuvant therapy and optimizing surgical strategy. Further prospective studies with larger patient cohorts are required to improve diagnostic accuracy and refine imaging-based preoperative risk stratification models.

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Author contributions: Conceptualization, J.K. and D.S.; Methodology, A.D.S. and A.J.; Investigation, K.S. and V.S.; Resources, K.E. and P.S.; Data collection and analysis, O.S.; Writing – original draft preparation, M.M.J.; Writing – review and editing, M.M.J. and A.D.S. All authors reviewed and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

Ethical approval: The study was approved by the Ethics Committee of the Clinical Center of Serbia under decision No. 1880/69 dated December 25, 2025.

Informed consent: The patients included in the study provided informed consent for surgical treatment and for all diagnostic procedures performed as part of preoperative preparation at the First Surgical Clinic, University Clinical Center of Serbia.

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PREDIKTIVNA VREDNOST CT MORFOLOŠKIH KARAKTERISTIKA U STRATIFIKACIJI METASTATSKOG RIZIKA GASTROINTESTINALNIH STROMALNIH TUMORA: NEZAVISNA ANALIZA DVA RADIOLOGA

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Sažetak

Uvod: Gastrointestinalni stromalni tumori (GIST) mogu imati agresivno biološko ponašanje. Preoperativna procena rizika značajna je za planiranje lečenja. Stoga je cilj ove studije bio da proceni prediktivnu vrednost i reproduktivnost CT morfoloških karakteristika u identifikaciji visokorizičnih GIST-a korišćenjem nezavisne analize dva radiologa.

Materijal i metode: Retrospektivna studija obuhvatila je 26 pacijenata sa histopatološki potvrđenim gastričnim GIST koji su podvrgnuti dvofaznom kontrastnom MDCT pregledu. Dva radiologa su nezavisno analizirala CT morfološke karakteristike – veličinu tumora, integritet mukoze, unutrašnju strukturu, oblik, obrazac rasta i prisustvo uvećanih krvnih sudova koji ishranjuju ili dreniraju tumor (EFDV). Na osnovu prekinute mukoze i EFDV, tumori su klasifikovani u visokorizičnu (HR) i niskorizičnu (LR) grupu, a nalazi su korelisani sa histopatološkim rezultatima.

Rezultati: Histopatološka analiza potvrdila je HR GIST kod 10, a LR GIST kod 16 pacijenata. Odlično slaganje između radiologa zabeleženo je za procenu integriteta mukoze (κ=0,843) i strukture tumora (κ=0,923), dok je značajno slaganje postignuto za EFDV i obrazac rasta, a umereno slaganje za oblik tumora i procenu rizika. Oba radiologa pokazala su visoku senzitivnost (90%) u identifikaciji HR GIST-a. Veći dijametar tumora, prekinuta mukoza, heterogena struktura, nepravilan oblik, endofitni rast i prisustvo EFDV bili su povezani sa HR tumorima, iako je specifičnost ostala ograničena zbog preklapanja imidžing karakteristika.

Zaključak: CT morfološke karakteristike predstavljaju značajne imidžing biomarkere za preoperativnu stratifikaciju rizika gastričnih GIST-a. Prekinuta mukoza i EFDV bili su najznačajniji prediktori visokorizičnih tumora. Uprkos preklapanju imidžing karakteristika između nisko- i visokorizičnih lezija, konvencionalna CT analiza može pomoći u identifikaciji agresivnih tumora i planiranju terapije.

Ključne reči: GIST, kompjuterizovana tomografija, morfološke karakteristike, stratifikacija rizika, visokorizični GIST

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