INTRODUCTION
A giant gastric ulcer penetrating into liver is a rare entity. Information is limited and the management recommendations are not clear. The surgical team has to consider several factors, before choosing between a major or minor procedure.

Gastric ulcer penetration into liver is a rare but serious complication of peptic ulcer disease. We present a case of a 75-year-old man, admitted with anemia. Endoscopy showed a giant gastric ulcer in the gastric antrum. During operation, we established the diagnosis of gastric ulcer penetration into liver.

Peptic ulcer disease (PUD) was a common entity in the 20th century; however, there has been a dramatic fall in its prevalence, in developed countries, due to the discovery of effective acid suppressants and of Helicobacter Pylori. Each year PUD affects 4 million people around the world. Complications are encountered in 10%-20% of these patients and include bleeding, perforation, penetration, and gastric outlet obstruction. Ulcer complications are on the rise in older patients but on the decline in younger individuals, which may reflect the increased use of nonsteroidal anti-inflammatory drugs.

Penetration of gastric ulcers into adjacent organs is a rare event. Only few cases are described in literature, where duodenal or gastric ulcers penetrate into liver. Usually in cases of perforated peptic ulcer disease, patients have a typical history of sudden onset acute pain located in epigastric area and blood samples are taken mainly to exclude the diagnosis. However, the clinical feature described in the reports of PUD penetrating into liver was GI Bleeding and the diagnosis was mainly made by endoscopy. The indicated surgical strategy is a subject of debate. Whether a primary closure or a gastric resection will be performed, consideration of several factors is required. The size and the location of perforation, suspicion of malignancy, age, and comorbidity have to be taken into account.

We describe the case of an older man, who developed a silent gastric ulcer, which was penetrating into liver. The endoscopy showed a giant gastric ulcer; however, the diagnosis of the penetration was made in the operation room, where we performed a wedge resection of the ulcer and primary repair.

CASE
A 75-year-old man was admitted in the Internal Medicine Department of our Hospital because of weakness and dizziness. Patient was not receiving steroids on daily basis. He was, however, abusing nonsteroidal anti-inflammatory medication due to right elbow and wrist osteoarthritis. Patient
was a former smoker with 50 packs/year smoking history. Physical examination showed heart rate at 74 beats/min and a blood pressure of 150/68 mm Hg. Abdomen was soft, non-tender. Bowel sounds were hyperactive. Rectal examination revealed no lesions, masses, and blood and was otherwise unremarkable. Initial laboratory evaluation showed mild leukocytosis WBC 13700/mm³ (normal 4-11 10³/mm³) and anemia; Hgb 7.03 g/dL, Hct 22.40% (normal Hgb 14-18 g/dL, Hct 42%-54%). Liver functions were within normal limits, and γGT was a bit deranged to 56 IU/L (normal 10-49 IU/L). Total bilirubin, blood urea, creatinine, sugar, and coagulation parameters were normal. CRP was 17.3 mg/dL (normal 0-0.70 mg/dL). Abdominal ultrasound showed a hyperechoic well-defined mass 2.38 cm in the right lobe of the liver having hemangioma characters, as well as intrahepatic bile duct dilatation. Patient was booked and done a CT scan which revealed a thickened gastric mucosa without free air and fluid (Figure 1A and 1B). Tumor markers were all of normal range.

The following day an Oesophago-Gastro-Duodenoscopy (OGD) was performed. It revealed a large ulcerative crypt in the gastric antrum. No active bleeding was present at the time, and the ulcer base was thick making it hard to obtain biopsies (Figure 2A and 2B).

Due to this, patient was booked for diagnostic laparoscopy on the next session available. In the operating room, we discovered a giant gastric ulcer 5 × 2 cm which was penetrating into liver. Conversion to open approach has been done, and a wedge resection of the ulcer was performed followed by primary repair (Figure 3). Histological examination of the specimen revealed a benign ulcer without malignancy features.

The patient was stable and has been discharged postoperative day 8.

3 | DISCUSSION

We report an uncommon case of intraoperative discovery of a giant gastric ulcer penetrating into liver in an older man. Giant gastric ulcers are gastric ulcers greater than 3 cm in diameter. They represent between 4% and 25% of all gastric ulcers and typically present in the sixth or seventh decade of life. Perforated PUD accounts for 2%-14% of peptic ulcers; however, a penetration into liver is rare. We have found only few reports of gastric ulcers which have penetrated into liver. In contrast to the reported cases, where the main clinical presentation was GI bleeding, our patient was presented with weakness, anemia and there was no evidence of active bleeding. Abdominal pain and tenderness were reported in half of the cases. While in most of the cases the endoscopic appearance was that of a gastric ulcer and the diagnosis of PUD penetrating into liver was established by biopsies, that revealed hepatic tissue, in our case, the diagnosis was established in the operating room. The diagnostic value of the liver function tests in case of an ulcer penetrating the liver seems to be limited. The normal tests may reflect that local hepatic injury does not cause abnormalities in liver functions.

Successful treatment without operation was achieved in only two cases, the majority of the patients were managed in the theater. Major operation such as a subtotal gastrectomy with Billroth II reconstruction was performed in 5 cases. A wedge resection of the ulcer, followed by primary repair, remains a useful alternative in patients unfit for major operation. The surgical management of a perforated gastric ulcer is yet an unresolved issue. In the past, gastric resection was the procedure of choice. Nowadays, the success of medication which reduces the stomach acid production, changed the vector toward ulcer wedge resection and primary closure. Overall, there is no consensus, but some advice is given. Choosing between a major or a minor surgery is a challenge requiring consideration of many factors. The size and the location of a perforated gastric ulcer, the suspicion of malignancy, diffuse peritonitis, sepsis, age, gender, and comorbidity are some of the factors that need to be taken into account before deciding what type of procedure we will perform. These factors were taken into account in our case leading us to choose a minor surgery.

4 | CONCLUSION

A giant gastric ulcer penetrating into liver is a rare entity in everyday clinical practice. We present a case of a 75-year-old
man, who was diagnosed with giant gastric ulcer penetration into liver. Information about this type of complication is limited, and the recommendations of its management are not clear. The choice of operating procedure, major, or minor is a complicated issue, and the surgical team has to consider several factors concerning the patient’s fitness for surgery, before proceeding to the final treatment.

ETHICS STATEMENT
The patient consent has been signed and collected in accordance with the journal’s patient consent policy.

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Published with written consent of the patient.

CONFLICT OF INTEREST
None declared.

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