CASE REPORT

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Spontaneous Gastric Intramural Hematoma Operated Due to Gastrointestinal Stromal Tumor Pre-diagnosis

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ABSTRACT Intramural hematoma is observed in the gastrointestinal tract, often in the esophagus, duodenum, colon and less frequently in the stomach. It usually occurs after trauma and endoscopic interventions in people using anticoagulants. It is extremely rare for it to be spontaneous. Correct diagnosis is difficult and misdiagnosis can lead to unnecessary surgical treatment for the patient. Numerous examinations performed may not be helpful. A gastrointestinal stromal tumor was considered in a 42-year-old male patient after investigations for abdominal pain. Diagnosis could not be made through the biopsy performed under endoscopic ultrasonography. Laparoscopic subtotal gastrectomy and Roux&Y gastrojejunostomy were performed. After the pathological examination of the mass, it was found that it was an intramural gastric hematoma. Its etiology is unclear and in this respect it was considered to be spontaneous.

Keywords: Hematoma; gastrointestinal hemorrhage; image-guided biopsy; gastrectomy

Intramural gastric lesions have different causes. It does not always represent a tumor. In such a lesion, infiltrative diseases such as gastrointestinal stromal tumor (GIST), ectopic pancreatic tissue, vascular malformation, abscess, intramural hematoma, lymphoma, and amyloidosis should be considered. Radiological and endoscopic techniques should be applied carefully for differential diagnosis. Biopsy should be performed on requirement and pathological examination should be evaluated carefully. Intramural gastric hematoma, which is one of the intramural gastric lesions, may occur in gastric or duodenal ulcers, chronic pancreatitis, hematological diseases, vascular aneurysms, use of oral anticoagulants, iatrogenic after upper gastrointestinal system endoscopy, and visceral artery injury after abdominal trauma. Although very rare, its etiology may be unclear.[1,2] These lesions may not be recognized sufficiently by current imaging methods and are often diagnosed with postoperative pathological examination.

CASE REPORT

An informed consent was obtained from the patient for this case report.

The patient was admitted to the emergency clinic with the complaint of abdominal pain, indigestion and vomiting for 3 days. In the anamnesis of the patient, it was learned that he had no such complaints, no trauma, no medical treatment, and no surgery. The patient had sensitivity in the epigastric region and no characteristics were found in the biochemical examinations. In abdominal ultrasonography, a solid mass lesion, 36x32 mm in size, defined as hypoechogenic located between the fatty planes adjacent to the pancreas in the posterior part of the stomach corpus, was

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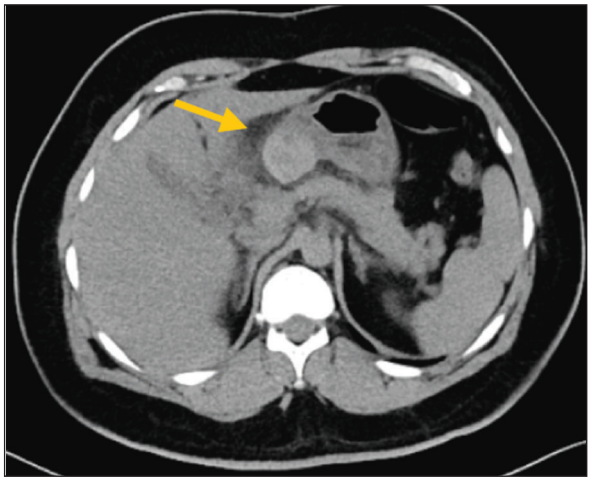

FIGURE 1: Solid mass, 38x36x30 mm in size with smooth contours, heterogeneous hyperdense feature in precontrast image, without significant contrast enhancement in postcontrast image in the lesser sac.

observed submucosally in the small curvature near the incisura angularis. Mucosal integrity on its surface was fully evaluated, no ulcer area was observed.

Abdominal computed tomography was performed to investigate the etiology of the lesion. In the lesser sac, a solid mass was detected in the posterosuperior compression of the small curvature of the stomach, 38 x 36 x 30 mm in size, with smooth contours, heterogeneous in the precontrast image, hyperdense in the precontrast image, and no significant contrast enhancement in the post-contrast image (Figure 1). No vascular malformation was observed.

In the endoscopic ultrasonography, a heterogeneous mass area with large cystic and necrotic areas inside, approximately 30 x 35 mm in size, which was thought to grow outward from the muscularis propria was detected. Fine needle aspiration biopsy was performed by entering the solid lesion with a 22 Gauge procore needle for 5 times (Figure 2). It was reported on the on-site evaluation that that there was a large amount of fibrin and this could be caused by bled GIST or mesenchymal tumor. It was stated that there were several spindle cell fragments in the pathological examination, no evidence of epithelial malignancy, spindle cell fragments observed in smears may represent a mesenchymal tumor including GIST. Staining with GIST markers could not be shown.

According to clinical and radiological correlation results, re-biopsy (preferably thick needle biopsy) was recommended to obtain suitable material for immunohistochemistry. However, the patient whose complaints increased, stated that he did not want additional examination and preferred surgical treatment. There upon, laparoscopic subtotal gastrectomy and Roux&Y gastrojejunostomy were performed.

Organized hematoma was detected in the omental adipose tissue of the small curvature in the pathological evaluation. On the periphery of the pseudocystic area formed by hematoma organization, collagenized myofibroblastic proliferation forming a band 0.3-0.5 cm thick was detected. Mixed active chronic inflammation was observed in the stomach muscle layer, which was effaced from the myofibroblastic wall towards the mucosa, showing the superiority of eosinophils. Chronic active transmucosal gastritis was found in the antral mucosa of the stomach; the presence of lymphoid follicles was detected. No evidence of malignancy was observed in the detailed examination of the pseudocystic mass lesion and the fragmented coagulum. Immunohistochemical evaluation supported this result. In spindle cells, Ki-67 was found to be 3% positive, Smooth Muscle Actin was diffused and strongly stained, Primary Human Hepatocytes was positive, but other antibodies desmin, S-100, DOG-1, CD117, CD34 were negative. No vascular pathology was found in the present samples that could explain the bleeding.

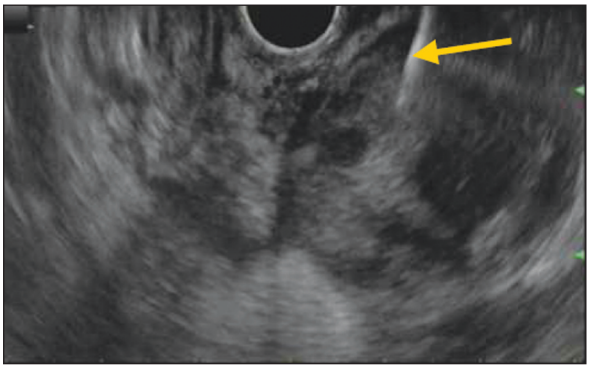

FIGURE 2: In endoscopic ultrasonography, a heterogeneous mass area with large cystic and necrotic areas inside the stomach antrum, approximately 30x35 mm in size, which was thought to grow outward from the muscularis propria. Performing fine needle aspiration biopsy with 22 G procore needle.

DISCUSSION

Spontaneous intramural gastric hematoma is extremely rare. It is thought to develop due to the damage of terminal arterioles after the separation of the muscularis propria layer from the submucosa. Diseases that cause increased vascular fragility such as trauma, amyloidosis, and endoscopic interventions may trigger this condition. Its etiology may rarely be unclear.[1,2] In the literature, it is seen that the most common etiological condition is trauma.[3-5] Hematological diseases such as hemophilia and Von Willebrand disease and long-term anticoagulant use are important risk factors for the development of intramural gastric hematoma.[6] It may also occur less frequently in peptic ulcer disease, chronic pancreatitis, spleen injury, and presence of foreign bodies in the stomach wall. Intramural gastric hematoma is more common in men. Abdominal pain and nausea are prominent complaints. It is frequently observed in the corpus in the stomach, less frequently in the pylorus and antrum. The entire stomach is rarely affected. Sometimes, hemorrhagic leakage from the stomach wall and peritoneal irritation may develop. Most intramural gastric hematomas are self-limiting and usually resolve within 2-3 weeks. Computed tomography has high sensitivity and specificity in diagnosis, and the lesion is observed as hyperdense, usually without wall infiltration. In addition, there is no calcification observed in malignancy.[7] Conventional angiography can be used in treatment by allowing embolization in patients with active hemorrhage. Endoscopic endosonography is useful in determining the source of the hematoma within the wall. It also makes it possible to take a biopsy to make differential diagnosis.

There are a total of 9 patients diagnosed with spontaneous intramural gastric hematoma in the literature (Table 1). There is no factor that facilitates hematoma formation such as anticoagulant drug use, hematological disease in 5 of these patients. Three of them are women and 6 of them are men. Average age of incidence is 57. The 26-year-old male patient presented by Spychała et al., is the only patient who underwent total gastrectomy considering GIST prediagnosis and experienced organ loss.[8]

The patient presented is the only case in this group who underwent biopsy by endoscopic ultrasonography, and despite this, it could not be diagnosed. It is an important detail that biopsy repeat is recommended. Developing pathological and radiological methods for these situations is important in terms of being protective against possible organ loss. If there is any doubt about the diagnosis in the preoperative period, biopsy repeat should not be avoided. The algorithm for the treatment of intramural gastric hematoma has not been defined. In the re-

TABLE 1: Spontaneous intramural gastric hematoma patients.

Causes	Publication year	Age	Gender	Morbidity	Management	Medicine	Pathology
Costa B, et al.	2000	75	F	No	Laparatomy-Bilroth 2 gastrectomy	Not using	Hematoma
Hui J, et al.	2000	49	M	No	Laparatomy-total gastrectomy	Not using	Hematoma
Rajagopal K, et al.	2005	76	M	No	Conservative	Acetylsalicylic acid	-
Lee M, et al.	2006	66	F	COPD, hypertension, Crohn disease, thyroid cancer-total thyroidectomy	Transarterial left gastric artery embolization	Prednisolone, irbesartan, seretide, thyroxin	-
Leborgne L, et al.	2007	73	M	Has a history of MI, AF patient	Conservative	Fluindione, amiodorane, acetylsalysilic acid	-
Spychala A, et al.	2016	26	M	No	Laparatomy-Total gastrectomy and eusophagojejunostomy	Not using	Hematoma
Cimavilla-Roman M, et al.	2017	47	M	No	Conservative	Not using	-
Yoshioka Y, et al.	2018	60	F	Myelodysplastic syndrome, hypertension, cerebral infarction, left hemiplegia	Laparatomy-wedge resection	Antihypertensive and PPI	Hematoma

COPD: Chronic Obstructive Pulmonary Disease; MI: Myocard infarction; AF: Atrial fibrillation; PPI: Proton pump inhibitor.

view by Borges et al., it is remarkable that there are 57 intramural gastric hematoma patients in the literature, 22 (38.5%) were treated with conservative methods and 29 patients (50.9%) were treated with surgical methods. Transarterial embolization was used in 2 patients, endoscopic interventions in 2 patients, and percutaneous drainage under computed tomography in 1 patient (10.5%).[3] The indication for surgical treatment is the patient's clinical findings and hemodynamic status, the size of the lesion, destruction of the stomach wall, and failure to diagnose during the examination period. Subtotal or total gastrectomy is applied depending on the location. Surgical treatment selection is more difficult than gastric cancer surgery.[9] Blood and blood products transfusion and anti-acid treatment constitute the basis of conservative treatment. Correct diagnosis is essential for the selection of this method, which is valuable in terms of giving a treatment chance without causing organ loss.

One of the diagnoses that should be kept in mind in intramural gastric mass lesions is idiopathic intramural gastric hematoma. Interventional treatments made with a good history, medications used by the patient and known diseases should be learned carefully. Knowing the etiological factors directly affects the diagnosis and treatment process. Correct diagnosis is the most critical step in treatment selection. Biopsy performed may not be diagnostic. Repetition should not be avoided if necessary. In this way, the patient can be protected against organ loss and can be kept away from various complications throughout the life. In order to avoid such problems, it is important to use and generalize endoscopic ultrasonography more effectively. Thick needle tissue sampling can produce solutions instead of fine needle aspiration biopsy. The rate of correct diagnosis may increase in this way. Besides, efforts should be made to improve pathological techniques.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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