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CASE REPORT

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Vulvodynia and Mental Health: Case Report

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ABSTRACT

Vulvodynia is a global public health concern. Health-related quality of life, psychological well-being, sexual satisfaction, and overall daily functioning are significantly affected by this condition. The research yields that the prevalence of vulvodynia in some countries reaches 15%. Nevertheless, it remains a poorly diagnosed and unaddressed issue, even more so in low- and middle-income countries. This case report draws public attention and interest of the medical community to this issue.

Keywords: Vulvar pain, chronic pain, vulvodynia, depression, mental health, suicide

INTRODUCTION

Approximately 10% of the population worldwide each year is diagnosed with chronic pain [1], making it one of the global public health priorities. Chronic pain can be associated with many non-communicable diseases, including but not limited to diabetes, depression, arthritis, and many more. Furthermore, chronic pain is positively correlated with depressive syndrome: 13% of patients in gynecological clinics and 27% of patients in primary care clinics have co-morbid depression and chronic pain [2,3].

A manifestation of primary chronic pain conditions in premenopausal sexually active women under 40 years is vulvar pain or vulvodynia [4,5]. This condition affects 8-10% of the population [6] and commonly co-exists with somatic disorders. The main symptom of vulvodynia is persistent vulvar pain, which usually worsens in sitting or during urination. The pain can be burning, itching, or throbbing and devastatingly impacts sexual intercourse and daily living. Although vulvodynia is the most common cause of chronic pain among premenopausal women, it is still subject to late diagnosis, particularly in the medical communities of eastern cultures. First, young women with unexplainable complaints frequently avoid or postpone visits to a gynecologist. Moreover, doctors in eastern cultures are usually better trained in childbirth concerns, and some diseases that significantly decrease women's quality of life are often disregarded. Gerhant et al. [2] and many other authors report very low diagnosis and treatment rates in developed and developing countries [2]. Around 50% of patients do not address their problems in time or are referred to as many as three to five medical specialists without being correctly diagnosed. This imposes a severe burden on the psychological well-being of women living with vulvodynia [6,7].

This is a case of a teenager suffering from vulvodynia co-morbid with depression. As discussed previously, vulvodynia is poorly diagnosed and rarely treated in Azerbaijan. Comorbidity with depression significantly decreases well-being and quality of life, leading to severe mental health conditions such as depression and/or suicidal ideation.

CASE PRESENTATION

The patient was a 13-year-old Azerbaijani teenager who presented to for psychiatric opinion with her mother. A gynecologist referred her to a mental health specialist as having "severe mental illness". In the last three months, she has visited four gynecologists, a family therapist, and an endocrinologist, all of whom could not reveal any dysfunction corresponding to the presented complaints. A patient was born in term, had normal physical and intellectual development and progressed well at school up until the pain manifestation around five months ago. She never exhibited any signs of behavioral problems or personality disorders. Her medical history was unremarkable, except for numerous pain-related visits to gynecologists in the last three months. The gynecological examinations did not reveal any severe disease or condition that could explain the pai; therefore, she was referred to a mental health specialist, preferably a psychiatrist.

During the mental state examination, the eye contact was reduced, the facial expression was sad and anhedonic, and there were no obvious psychomotor abnormalities. The

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speech of the patient was slow and monotone, congruent to a depressed mood. No positive or negative symptoms corresponding to a psychotic state were discovered. During the conversation, the patient complained of a five-month history of severe itching pain, which developed without clear reason and did not disappear or decrease in intensity after the analgesics. The psychiatrist also discussed psychosocial issues, including any form of sexual or physical abuse, but the patient rejected those as irrelevant. The results of the physical examination were within normal limits. The patient also denied alcohol or cigarette consumption. She told that the pain was unbearable and she also expressed anger with her being referred to psychiatrists and doctors who insisted that the pain has no physical explanation and is due to mental issues only. The patient burst into tears while trying to explain that it is very complicated to live in such pain, and she is even thinking about suicide to escape these sufferings.

The patient was diagnosed with a "severe depressive episode without psychotic symptoms (F32.2)" and was referred to a physiotherapist specializing in pelvic floor dysfunctions before treatment initiation. A thorough gynecological examination established previously undiagnosed vulvodynia. Differential diagnosis was with lichen sclerosis, lichen planus, and vulvar/vaginal dryness and confirmed the diagnosis of chronic pain due to vulvodynia.

The patient was prescribed duloxetine 30 mg/daily, gradually increasing to 60 mg/daily. A month later, on the planned visit, the patient reported significantly reduced pain syndrome and improved psychological well-being. It was suggested to continue with duloxetine 60 mg/daily, and the next visit was scheduled in two months.

DISCUSSION

Thus far, vulvodynia is a poorly understood disease with no explicitly determined causal factors [8,9]. It is frequently misdiagnosed or incorrectly addressed and treated. This significantly limits performance in daily functioning and contributes to mental issues, including severe depressive disorder and suicidal ideation. According to research by Patla et al. [10], vulvodynia causes a 64.5% deterioration in the health- related quality of life. Our literature search revealed a few case studies on vulvodynia and related issues and only one on depression and vulvodynia [2,11,12]. This is an indirect indicator of insufficient interest to the topic. Vulvodynia is still widely misdiagnosed worldwide, causing devastating consequences to the daily routine, sexual life, health-related quality of life, and psychological well-being of premenopausal women. Vulvodynia has a strong correlation with depression and may contribute to the development of suicidal ideation, with chronic pain being a significant risk factor for suicide. The issue becomes exceptionally pertinent for women from low- and middle-income countries experiencing a shortage of necessary economic and healthcare resources, including access to medical help, absence of health coverage, and scarcity of mental health specialists.

This case study highlights the damaging issue of chronic pain, particularly vulvar chronic pain, among sexually active women. The prevalence of vulvodynia in Azerbaijan is unknown, mainly due to low awareness of this condition and omnipresent misdiagnosis. There is an urgent need to bring awareness to this global public health issue, mainly among gynecologists, primary care physicians, and nurses.

More research is needed on this topic. This will build a scientific background for a more targeted approach, evidence-based guidelines, and interventions. Another barrier to timely treatment and prevention of relapses is that the specialization of physiotherapists and physiotherapy is very underestimated as a treatment choice in Azerbaijan. This limits patients' access to a wide range of possible treatment options.

Ethics

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Z.A., K.G., Concept: Z.A., K.G., Design: Z.A., K.G., Data Collection or Processing: Z.A., K.G., Analysis or Interpretation: Z.A., K.G., Literature Search: Z.A., K.G., Writing: Z.A., K.G.

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CASE REPORT

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Accessory Spleen in the Greater Omentum Found Incidentally During Cancer Surgery

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ABSTRACT

We incidentally found an accessory spleen (AS) during gross pathological examination of the greater omentum of a 58-year-old female patient who underwent omentectomy for a debulking procedure. Lymphoid follicles and splenic pulp were observed under microscopic examination to confirm that it was the splenic tissue. This patient was previously diagnosed with endometrial adenocarcinoma four years ago. At the time of hospital admission, our patient had no symptoms indicative of splenic abnormalities. ASs are typically found in the splenic pedicle and hilum, but they may also be rarely be seen in the greater omentum. It should be considered in the differential diagnosis of lesions in the greater omentum.

Keywords: Greater omentum, accessory spleen, debulking, and endometrial adenocarcinoma

INTRODUCTION

An accessory spleen (AS) is a minor nodule of splenic tissue located separately from the main body of the spleen, sometimes known as a supernumerary spleen or a splenunculus. Generally AS is found in 10% to 30% of the population and is thought to form during embryogenesis [1]. Their size varies; most AS remain small nodules, and some of them may resemble lymph nodes. They often present as round, uniformly grown, well-marginated masses. They are frequently found adjacent to the splenic hilus and vascular pedicle, the splenocolic ligament, the splenic artery, and the pancreatic tail [1-3]. However, they are occasionally found within the gastrointestinal tract, the greater omentum, the left ovary/testis, and the pouch of Douglas [3]. Here, we report a rare case of AS that is located in the greater omentum of the female patient and was diagnosed postoperatively with histopathological examination.

CASE PRESENTATION

A 58-year-old female patient was admitted to the hospital for a debulking procedure for metastasis from endometrial cancer, as this woman had undergone hysterectomy 4 years prior due to the diagnosis of endometrial adenocarcinoma. The goal of debulking is to remove the cancerous tissue in the patient's abdominal cavity and increase the chance that chemotherapy or radiation therapy will kill all the tumor cells and relieve symptoms. On hospital admission, the physical examination findings were unremarkable. Complete blood count and liver function tests performed in the laboratory came back within normal ranges. Tests for hepatitis C, syphilis, and HIV all were negative. Slightly elevated C-reactive protein could be due to an inflammatory process related to metastasis. On chest radiographs, focal and infiltrative changes were not detected in the parenchyma of the lungs. The left costodiaphragmatic recess was blunted due to pleural adhesions, and the right side was unremarkable. An electrocardiogram (ECG) revealed left ventricular hypertrophy, sinus bradycardia, and decreased anterolateral coronary blood supply. In addition to the ECG, the echocardiogram showed decreased systolic function with a 45% left ventricular ejection fraction. A computed tomography scan of the abdomen with contrast revealed decreased density of liver parenchyma consistent with fatty infiltration, and the right lobe of the liver was enlarged to 20 cm along the craniocaudal direction. The gallbladder wall, intrahepatic and extrahepatic bile ducts, common bile duct, pancreatic parenchyma, and main pancreatic duct were within the normal range. Subcapsular, 25x16 mm sized, non-specific cystic lesions were noted in the posterior portion of the spleen. Additionally, multiple 20x30 mm necrotic and small-sized cystic masses were noticed in the right paracolic gutter. Some implants not exceeding 10 mm

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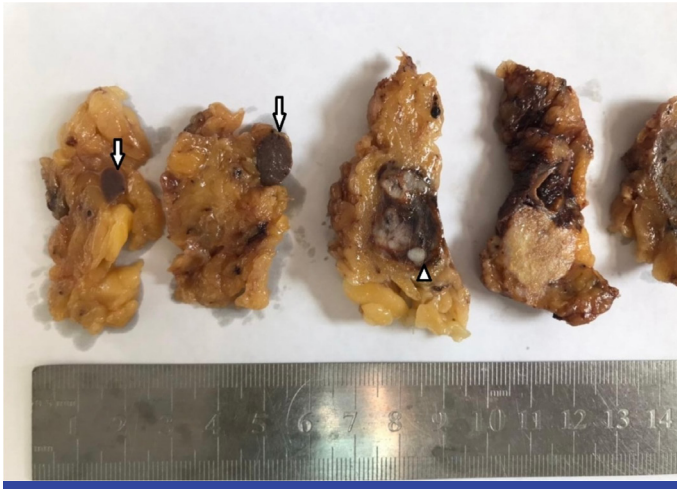

Figure 1. The macroscopic view of the accessory spleen (arrow) and metastasis of endometrial adenocarcinoma (arrowhead) in the omentum

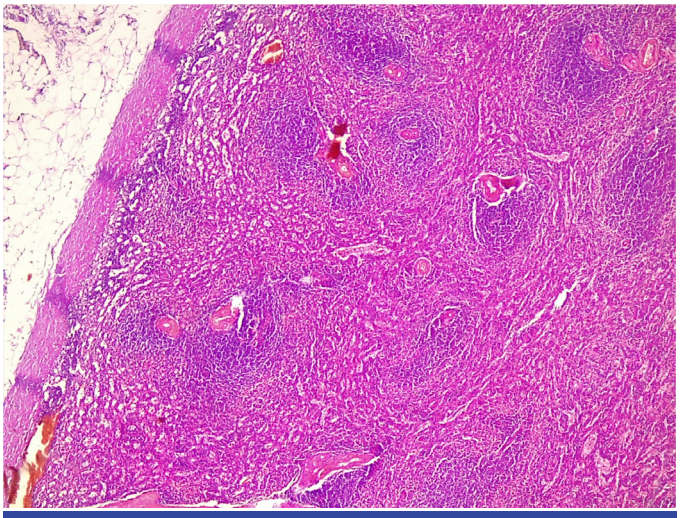

Figure 2. The splenic tissue with capsule and surrounding fat tissue

in diameter were observed in the peritoneal lining of the left lower quadrant of the abdomen. Other necrotic implants that were sized 20x22 mm, 24x22 mm, and 16x8 mm were noticed in the greater omentum. No other pathologic process was noted in the abdomen. After evaluation of all diagnostic and laboratory results together, the results raised suspicion of peritoneal carcinomatosis.

At the omentectomy, some well-marginated irregular masses were observed in the greater omentum. After dissection, a greater omentum with masses was sent for pathohistological evaluation. A gross examination of masses over the greater omentum revealed 2.0-2.5 cm yellow, hard nodules in 5 different locations, and a 1.0 cm red-colored and firm nodular lesion to the side of them (Figure 1). Microscopic examination reveals the loss of individual glandular contours with gland fusion and lack of intervening stroma of the yellow, firm nodes, which were thought to be caused by metastasis of previous endometrial carcinoma. Another 1 cm sized nodule's microscopic examination showed lymphoid follicles and splenic pulp, and the surrounding capsule that are the characteristic features of the AS (Figure 2). As a result, the diagnoses of "carcinomatosis compatible with endometrial carcinoma and an AS in the greater omentum" were made.

DISCUSSION

AS in the greater omentum is a rare congenital disorder and is usually found incidentally at autopsy [4]. It has been reported at a rate of 0.6% to 4% in different autopsy series [2,3,5]. As it is generally asymptomatic, there is no indication for surgery, and therefore, AS cases found in resection specimens are extremely rare. With the first case reported by Zhurilo and Litovka [10] in 1989, only 5 cases of AS in the greater omentum found in resection specimens have been reported in the literature [6-9].

Dull pain in the left upper abdomen and diarrhea were reported in only one case and symptoms resolved after the surgical procedure. This case also had the characteristic of being countless in size, and the authors associated the symptoms with mechanical irritation [6]. In another case reported by Matsuzawa et al. [7], it was reported that while there were no symptoms, surgery was indicated due to the size of the lesion and its progressive growth. Our case was asymptomatic and was not large.

As in the case we presented, AS was found incidentally during cancer surgery in the case reported by Tu et al. [8]. Another feature of this case is the detection of sarcoidosis in the AS tissue during microscopic examination. In another case, Mori et al. [9] reported a giant epithelial cyst in the AS tissue. In our case, no other tissue type was observed in the AS tissue during the microscopic examination.

In the first reported case, it was reported that the AS tissue mimics a tumor [10]. Today, AS tissue can be distinguished from other lesions with contemporary imaging methods [7]. Cases diagnosed specifically with the Tc-99m phytate scintigraphy method have been reported in the literature [11]. Differential diagnosis with splenosis is difficult both with imaging methods and pathological examination. The presence of a capsule containing smooth muscle elements is a critical finding favoring an AS [4].

AS in the greater omentum is usually asymptomatic and does not require special treatment. However, in hematological diseases in which splenectomy is indicated, the identification of AS tissue and removal with the spleen is important for preventing recurrence [4].

In conclusion, an AS can be seen in the greater omentum, although it is rare. To avoid unnecessary surgical procedures,

it is important to include AS in the differential diagnosis of omental lesions during the preoperative diagnosis process.

Ethics

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: E.J., K.B., E.B., L.A., E.A., Concept: E.J., Design: E.J., K.B., L.A., Data Collection or Processing: E.J., K.B., E.B., L.A., E.A., Analysis or Interpretation: E.J., K.B., E.B., L.A., E.A., Literature Search: E.J., Writing: E.J.

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CASE REPORT

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Laparoscopic and Endoscopic Cooperative Surgery for Gastric Lipoma

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ABSTRACT

Laparoscopic and endoscopic cooperative surgery (LECS) is a procedure that combines laparoscopic gastric resection with endoscopic submucosal dissection to remove gastrointestinal tract tumors with minimal surgical resection margins. LECS was first investigated for the local resection of gastric gastrointestinal stromal tumors (GISTs), and the first reported version of LECS for GIST has been named "classical LECS". The advantage of LECS is the preservation of the stomach wall, supplying vessels and nerves. This helps save gastric motility and the patient's postoperative quality of life. Currently, classical LECS is a safe and useful procedure for gastric submucosal tumors (SMTs). In this case, we present a 17-year old female patient, who was presented to our department with discomfort and dull pain in the epigastrium. A gastroscopy examination revealed a large SMT ~7.0-8.0 cm in size in the corpus of the stomach. On computer tomography scan, this lesion was assessed as a lipoma. Considering the size of the lesion, the "classical" LECS procedure was chosen as a treatment modality that allowed to preserve the integrity of the stomach and the quality of the postoperative life of a young girl.

Keywords: Lipoma, gastric submucosal lesions, laparoscopic surgery, minimally invasive endoscopic surgery

INTRODUCTION

Laparoscopic and endoscopic cooperative surgery (LECS) is a procedure that combines laparoscopic gastric resection with endoscopic submucosal dissection (ESD) to remove gastrointestinal tract tumors with minimal surgical resection margins [1,2]. The advantage of LECS is the preservation of the stomach wall, supplying vessels and nerves. This helps save gastric motility and the patient's postoperative quality of life [2]. Currently, classical LECS is a safe and useful procedure for gastric submucosal tumors (SMTs) [1].

CASE PRESENTATION

A 17-year -old female patient was presented to the Department of Invasive Diagnostics and Treatment of the National Oncology Center for the gastroscopy examination with discomfort and dull pain in the epigastrium. In July 2022, a gastroscopy examination revealed a SMT ~7.0-8.0 in size, with a depressive ulcer on the surface in the middle part of the corpus, along the greater curvature, toward the posterior wall of the stomach. Biopsies were taken from the lesion, sucralfate and proton pomp inhibitors were prescribed to resolve the ulcer, and also computed tomography (CT) scan was planned. While an immunohistochemical analysis of biopsy samples revealed only "chronic inflammatory changes", on CT scan, this lesion was assessed as a lipoma. Due to the large size of the SMT, the LECS procedure was chosen as a treatment option. During the LECS procedure perfomed 1 month after gastroscopy, we noticed that the ulcer on the surface of the tumor had resolved. For the LECS operation, three laparoscopic ports were placed on the front wall of the abdomen. After the ESD was performed, the surgeon made a ~3.0 cm long gastrotomy in the anterior wall of the stomach, and the lesion was removed from the stomach into the abdominal cavity. An incision was extended from the port closest to the umbilicus, and the mass was removed from the abdominal cavity using a special mesh. The defect in the stomach wall was repaired laparoscopically. The ports were removed and replaced. Histopathological examination of the mass had confirmed that it was a lipoma (Figure 1).

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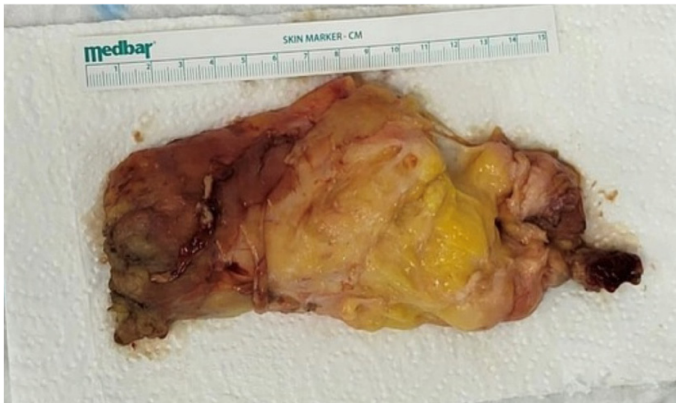

Figure 1. Removed lipoma

DISCUSSION

Gastric lipomas are rare tumors and account only 1-3% of benign stomach tumors [3]. The majority of these tumors are confined to the submucosa and are located in the antrum. While most gastric lipomas do not cause any complaints and are found incidentally, lipomas larger than 3 cm in size can cause symptoms such as upper abdominal pain and chronic gastrointestinal bleeding secondary to ulceration [3]. Small asymptomatic gastric lipomas should be observed, but larger, symptomatic lipomas should be removed [3]. Currently, endoscopic mucosal resection and ESD are used to remove large gastric [3] lipomas, but in our case,these options could not be perfomed because of the large size of the lesion, thats why the LECS procedure was chosen as a treatment modality. Sometimes the borders of gastric tumors, such as gastric cancer and SMTs, are not visible from the outside of the stomach, so it can be difficult to determine the exact resection margins of intraluminal tumors using traditional laparoscopic wedge resection [2]. LECS is a newly developed concept that combines ESD to determine the exact incision line and laparoscopic resection of the stomach wall [1,2]. LECS was first investigated for the local resection of gastric gastrointestinal stromal tumors (GISTs), and the first reported version of LECS for GIST has been named “classical LECS” [1]. The advantage of LECS is the preservation of the stomach wall, supplying vessels and nerves. This helps save gastric motility and the patient’s postoperative quality of life [2]. Since LECS was first reported in 2008, many researchers have used this procedure and currently, “classical LECS” is considered a safe and useful procedure for gastric SMTs without mucosal defects, independent of tumor location, such as proximity to the esophagogastric junction or pyloric ring [1,2]. In our case, a symptomatic large size lipoma was revealed and due to the benign nature of gastric lipomas [4], expand surgical interventions were not recommended. We have perfomed classical LECS procedure without any complications, and the lipoma was successfully removed. During the control gastroscopy, performed 2 months after the LECS, two scar tissues were observed at the site of the ESD and gastrotomy.

Classical LECS, which we had perfomed helped preserve the integrity of the stomach and the quality of postoperative life of a young girl.

Ethics

Informed Consent: We obtained consent from our patient for this publication.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Concept: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Design: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Data Collection or Processing: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Analysis or Interpretation: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Literature Search: F.G., A.A., A.H., G.A., T.M., M.M., C.A., Writing: F.G., A.A., A.H., G.A., T.M., M.M., C.A.

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CASE REPORT

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The Combined Use of Endoscopic and Percutaneous Drainage in Treatment of Acute Necrotizing Pancreatitis: A Case Report

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ABSTRACT

Acute pancreatitis commonly presents with abdominal pain and gastrointestinal symptoms. Accompanying fever could be a sign for necrosis and high risk for infection can be easily complicate the clinical picture. We are evaluating a case of acute necrotizing pancreatitis from positive and negative aspects of the approach. The management options we sought for our 50-year-old case had required us to involve different techniques and working with different disciplines of medicine. This report shows a case of acute necrotizing pancreatitis and the clinical solutions that our multidisciplinary team had followed via a dynamic decision-making process and the interventions that suited for such unique features and clinical course of the patient.

Keywords: Acute pancreatitis, endoscopic ultrasonography, necrotizing pancreatitis

INTRODUCTION

Acute pancreatitis is one of a common, complex gastrointestinal (GI) conditions that requires hospitalization. Even though the majority of the cases are mild, acute pancreatitis is prone for complications and still has high mortality and morbidity [1]. According to the revised Atlanta classification, graded as mild moderate and severe. A complication of acute pancreatitis is necrotizing pancreatitis, which can be sterile or infected [2].

Acute necrotizing pancreatitis has a strikingly high mortality rate. The management of necrotizing pancreatitis consists mainly of debridement, hydration-nutritional support, and antibiotic treatments, in certain cases. The fine tuning of treatment combinations, timing and the methods of interventions can drive the clinical outcomes.

Here in, we present a case of acute necrotizing pancreatitis referred to our center, by using combined medical and interventional methods by a multidisciplinary team.

CASE PRESENTATION

A 50-year-old male patient presented to a different clinic in October 2022 with fever, abdominal pain, nausea, and vomiting. He was first admitted in that GI clinic with epigastric pain complaints ongoing for 5 days. His investigations were resulted with white blood cell count (WBC) 12.700/µL, serum amylase 4468 U/L, serum lipase 3730 U/L, C-reactive protein (CRP) 48 mg/dL, and abdominal computerized tomography (CT) with intravenous contrast concluding peripancreatic edema without any mass lesion. He was diagnosed with mild edematous pancreatitis in October 2022 and was admitted for medical management. Upon his continuing symptoms, he was re-evaluated with abdomen CT, which yielded with a 60x40 mm lesion compliant with necrosis on the body of the pancreas (Figure 1a). The patient was started on piperacillin-tazobactam due to spiking 38.5°C fever. The patient was consulted with general surgery on day 5 of antibiotics due to continuing fever and decision was made to continue with medical management with upscaling antibiotics to meropenem and tigecycline. The patient was consulted with interventional radiology due to enlarging necrosis area to 120x90 mm on his 30th day on admittance (Figure 1b). It was learned that he was not found suitable for percutaneous drainage and his medical treatment was continued in the prior center. He presented to our clinic on November 2022 for necrosectomy and further medical treatment, with his continuing symptoms and complaints after 30 days of prior admission history. The necrosis area was drained with an endoscopic ultrasonographic (EUS) cystogastrostomy via 4 cm-biliary stent (Figure 1c, d). Simultaneous drawn fluid culture was later resulted with *Candida glabrata*, and his antibiotic treatment was renewed with antimycotic

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agent. Despite medical treatment and drainage, his fever was continued, being above 38.5°C with CRP 360 mg/dL WBC 19.000/µL was observed, and the cystogastrostomy was replaced with a distinct necrosectomy stent (3 cmx16 mm) (Figure 1e). At the same session, two pelvic percutaneous drains were placed through the right pelvic site by interventional radiology. On his following inpatient days, drain irrigation and endoscopic necrosectomy sessions made 2 to 3-day-period, a total number of 13 endoscopic necrosectomies, were made with continuous percutaneous drainage. Antibiotics and antimycotics were terminated on post-stent replacement day 5. After a total of 95 days of hospital stay, he was discharged with a single percutaneous drain to continue his outpatient clinical follow-ups (Figure 2).

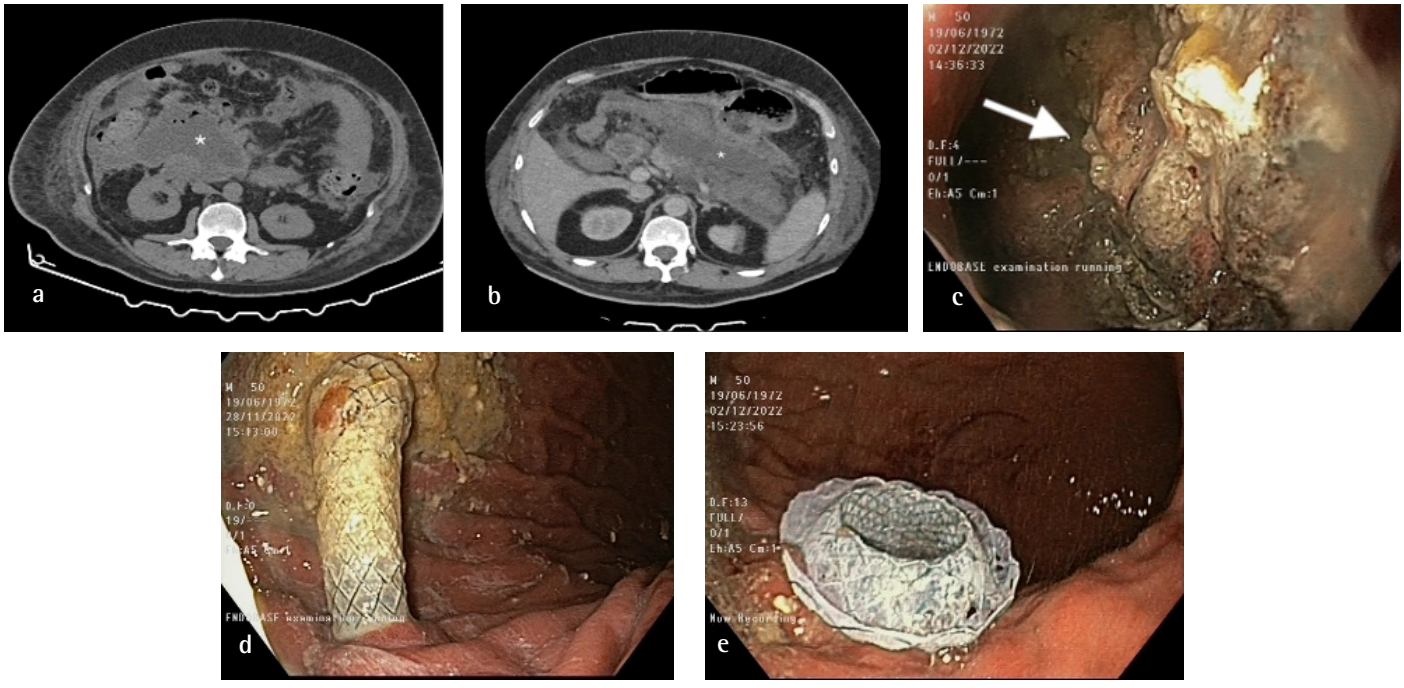

Figure 1. Endoscopic, EUS and abdominal CT image evaluations of the acute necrotizing pancreatitis. **(a)** Abdominal CT image of necrotizing pancreatitis lesion (marked with asterixis), **(b)** enlarging necrosis area prior necrosectomy (marked with asterixis), **(c)** endoscopic view of necrotic lesion site (arrow pointing the necrotic lesion), **(d)** endoscopic view of biliary stent, **(e)** endoscopic view of LAMS

EUS: Endoscopic ultrasonographic, CT: Computerized tomography, LAMS: Lumen apposing metal

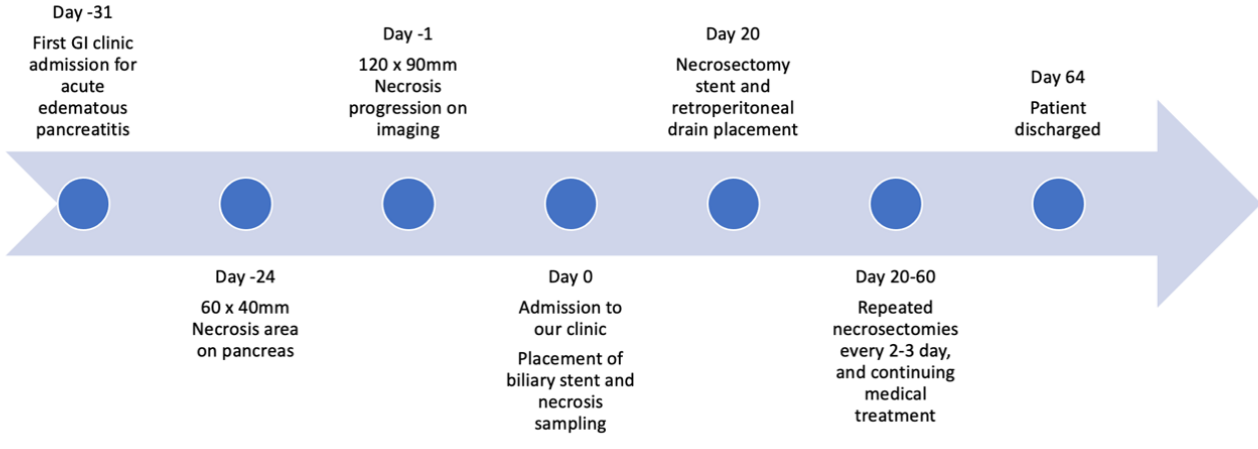

Figure 2. Timeline of clinical course

GI: Gastrointestinal

DISCUSSION

Acute necrotizing pancreatitis should not be treated with antibiotics unless there is an infection detected via either proven culture or imaging result [3]. For this reason, the detected necrosis area should be sampled with EUS/percutaneous intervention to determine the need and type of antibiotic treatment. This case was treated with broad -spectrum antibiotics for a long time without prior culture results. This case report revealed that the culture result of the necrosis sample yielded with *Candida glabrata* due to his history of broad-spectrum antibiotic use.

As the step-up approach in debridement of necrosis in acute pancreatitis studies suggested, an ideal intervention for symptomatic acute necrotizing pancreatitis patients (resistant fever, sepsis, feeding problems despite nasogastric medical treatment) is endoscopic necrosectomy under EUS [4-6]. For effective drainage of the necrosis area, large -diameter lumen apposing metal (LAMS) stents should be preferred. We first used a small-diameter biliary stent for drainage but then we should replace the stent with 16 cm diameter LAMS because the small -diameter stent was deemed inadequate and was unfavorable for necrosectomy. The number of endoscopic necrosectomy sessions needed for these patients is usually low, but in our case, the patient needed endoscopic necrosectomy for 13 times.

The risk of necrosis spread from the retroperitoneal area to the pelvis is rather high in acute necrotizing pancreatitis, which usually requires percutaneous drainage [7]. For this case, the need for percutaneous drain was foreseen during the first endoscopic necrosectomy even though it was deemed not necessary by interventional radiology. Alongside with endoscopic necrosectomies, the need for percutaneous drainage became more evident on the following day; thus, the drains were placed on inpatient day 51.

In conclusion, step-up debridement approach alongside with proactive clinical follow-up is the keystone in the management of acute necrotizing pancreatitis. This case underlines that acute pancreatitis can be complicated with necrosis that can enlarge within the retroperitoneal area, and if there is clinical evidence for infection, the correct antimicrobial agent should be used according to culture results. The necrosectomy method for this patient was chosen as endoscopic, and percutaneous drainage was used alongside. The most effective clinical intervention should be evaluated every day for the acute necrotizing pancreatitis cases, and the correct timing for an appropriate intervention method should be used for the best clinical outcome.

Ethics

Informed Consent: The patient's consent was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: D.M.Ö.G., A.B.A., E.A., Concept: D.M.Ö.G., E.A., Design: D.M.Ö.G., E.A., Data Collection or Processing: D.M.Ö.G., A.B.A., E.A., Analysis or Interpretation: D.M.Ö.G., A.B.A., E.A., Literature Search: D.M.Ö.G., A.B.A., E.A., Writing: D.M.Ö.G., A.B.A., E.A.

Conflict of Interest: No conflict of interest was declared by the authors.

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CASE REPORT

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Heterotopic Gastric Mucosa in the Upper Esophagus: Report of a Case with Adenoma

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ABSTRACT

The inlet patch is a congenital anomaly consisting of heterotopic gastric mucosa (HGM) most commonly located in the postcricoid portion of the esophagus at or just below, the level of the upper esophageal sphincter. Foci of HGM have been identified at different sites in the human body, including the head and neck, gastrointestinal tract, hepatobiliary system, and genital system, but the most common location in the proximal esophagus, which is referred to as cervical inlet patch (CIP). The presence of a HGM in the upper esophagus is an infrequent disorder. The most common histological subtype of CIP is the fundic mucosa (gastric body type with oxyntic glands, acid-secreting parietal and chief cells) followed by cardia-type mucosa. The true prevalence of CIP varies and it is usually incidental finding during endoscopy because CIP is always asymptomatic. The CIP is usually found at between 15 and 21 sm from the bite guard and on standard endoscopy it is found as a reddish or salmon-rose colored focal area and in the narrow band imaging mode it is look like as a homogeneous dark brown lesion, which is distinctly separated from the light green squamous epithelium, and the patch may be variable in size and in shaped (oval, round or even geographical), rarely may appear as a protrusive or polypoid lesion.

Keywords: Cervical inlet patch, heterotopic gastric mucosa, white-light imaging, narrow-band imaging, adenomatous polyp

INTRODUCTION

The inlet patch is a congenital anomaly consisting of heterotopic gastric mucosa (HGM) and island of HGM has been identified at different sites in the human body, but the most common location in the proximal esophagus, which is referred to as the cervical inlet patch (CIP) [1-4]. Although its etiology is unknown, it is considered an inborn disorder, an anomaly that occurs during embryogenesis [4]. The prevalence of CIP ranges from 0.2% to 13.8% when determined by endoscopic surveillance, but is as high as 70% when microscopically visible foci in surgical spicemens are included [4].

CIP is always asymptomatic, and it was believed to be of little clinical relevance [3]. However, emerging studies have described the acid-secreting characteristics of HGM and associations of CIP with gastroesophageal reflux disease and related complications [4]. Additionally, complications such as stricture, fistula, infection, mucosal hyperplasia, and malignant transformation have been reported [4]. Careful endoscopic diagnosis could reveal that an idiopathic globus sensation is attributable to CIP, which can be treated successfully by endoscopic ablation or acid suppression therapy [4].

Image-enhanced endoscopy, including several new optical and dye-based techniques, improves the effectiveness if the diagnosis of gastrointestinal tract neoplasm [4]. The CIP is usually found on standard endoscopy as a reddish or salmon-rose colored focal area and in the narrow band imaging (NBI) mode it is look like as a homogeneous dark brown lesion, which is distinctly separated from the light green squamous epithelium [2], and the patch may be variable in size and in shaped [2,5]. NBI systems enhance visualization of changes in surface mucosal and vascular patterns [4]. Because CIPs are always located at the point of physiological narrowing of the esophagus (the upper esophageal sphincter) and display characteristic increased surface vascularity likely to improve CIP detection [4]. The presence of oxyntic or cardia mucosa, defined as the columnar epithelium with glands containing parietal and chief cells, or columnar epithelium composed only of mucous cells, was considered histologically confirmed CIP [4]. In this case using white-light imaging (WLI) and NBI system [4].

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CASE PRESENTATION

Forty one-year-old female patient entered the clinic with complaints of pain in the epigastric area, heartburn, flatulence, dysphagia, and feeling of a foreign body (globus sensation) in the throat. According to her, she considers herself sick for several months, but does not associate the reason with anything. With the complaints mentioned above, she underwent Esophagogastroduodenoscopy (EGDS) examination in different clinics. Because of the recent EGDS examination, an inlet patch and on its surface epithelial derivative type 0-2a + 1p with signs of dysplasia was found in the esophagus, and endoscopic signs of incomplete scarring of the stomach, erosive gastritis, and superficial bulbitis were observed, clo test for *H. pylori* was negative. Because of the pathocytomorphological examination of the biopsy material taken from the esophagus, an adenomatous polip with incomplete metaplasia was observed. The condition of the patient was evaluated based on the examination, and endoscopic submucosal dissection (ESD) was recommended. During the operation, hanging toward the lumen, crossed a polypoid lesion with a villous structure was observed on the HGM covering a distance of 14-17 sm from the incisor; its surface and vascular patterns were refined with WLI and NBI modes. The edges of that area were marked on the border of the surrounding healthy mucosa, a submucosal pad was created by injecting gelofusine-indigo carmine solution under the mucous membrane, and the pathological area was removed along the marked border with the submucosal layer with a special tool. According to the opinion of pathocytomorphological examination, in that area showed gastric cardia gland structures, signs of inflammation and microscopic results corresponding were obtained (Figure 1).

DISCUSSION

Benign complications of CIP reported in the literature are rare but include strictures, web, ulceration, bleeding, fistula with or without subcutaneous abscesses, perforation, and polyps. In CIP without complications, there are no standardized therapeutic approach. Asymptomatic patients do not require any treatment. Acid suppressive therapy with proton pomp inhibitor may improve symptoms but has not been proven in a trial setting. We used argon plasma coagulation, endoscopic mucosal resection, ESD, and a novel technique radiofrequency ablation for endoscopic therapy. In this case we use ESD with an adenomatous polyp arising in CIP. This is a minimally invasive procedure that removes this lesion from the esophagus of a patient without removing the organ involved. The native organ is left in place, allowing a patient to maintain her quality of life.

In conclusion, newer endoscopic techniques are emerging to treat the conditions, with high rates of efficacy and durability. The patient in this case declined further intervention and opted for surveillance. Risks of strictures in this area would be considered very high following ESD, but we assume that the efficacy of novel endoscopic therapies is warranted.

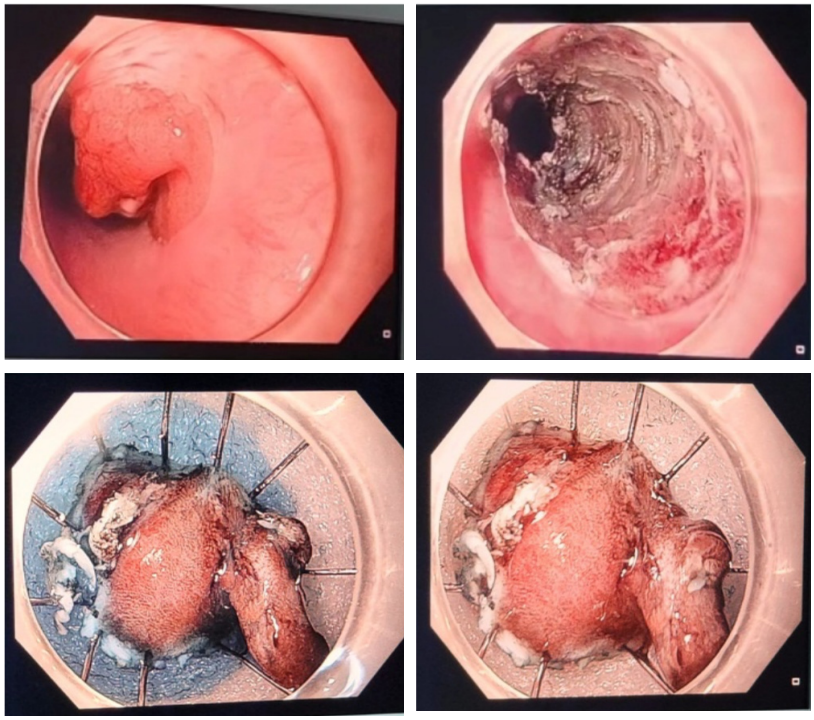

Figure 1. Heterotopic gastric mucosa in the upper esophagus complicated by an adenomatous polyp (Paris cl. 1sp)

Ethics

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: F.G., T.M., B.M., G.A., V.E., Concept: F.G., T.M., B.M., G.A., V.E., Design: F.G., T.M., B.M., G.A., V.E., Data Collection or Processing: F.G., T.M., B.M., G.A., V.E., Analysis or Interpretation: F.G., T.M., B.M., G.A., V.E., Literature Search: F.G., T.M., B.M., G.A., V.E., Writing: F.G., T.M., B.M., G.A., V.E.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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CASE REPORT

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Diagnostic Role of Doppler Ultrasound in Innominate Steal Syndrome: A Case Presentation

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ABSTRACT

Innominate steal syndrome is a rare clinical finding, caused by steno-occlusive damage of innominate artery leading tocerebrovascular symptoms. Doppler ultrasound is a valuable noninvasive method for examination of innominate artery. We report a case of a 68-year-old man who presented with recurrent blurred vision, dizziness, headache, syncopal episodes, and pain in right arm during physical activity. Arterial blood pressure was not measured and diminished radial pulse was detected in the right arm of the patient. We used a duplex ultrasound Doppler for examination of extracranial arterial vessels. Our findings were reversed flow in the right vertebral artery and systolic decelerationand tardus–parvus waveform in the right carotid artery. The feature angiographic evaluation revealed 90% stenosis of the innominate artery. Endovascular stenting was applied to the patient and enabled normal antegrade flow in the right common carotid and vertebral artery. Duplex Doppler ultrasound is a non-invasive and fairly effective method for detection steno-occlusive atherosclerotic diseases of extracranial arterial system. Here, critical stenosis in the innominate artery was successfully detected by Doppler ultrasonography and confirmed by angiographic examination.

Keywords: Innominate steal syndrome, innominate artery, cranial vessels Doppler, subclavian steal syndrome

INTRODUCTION

Innominate steal syndrome is a rare clinical finding, caused by steno-occlusive damage of innominate artery leading to cerebrovascular symptoms. Symptomatic atherosclerotic steno-occlusive disease of the innominate artery represents 2.5-4% of all extracranial causes of cerebrovascular insufficiency [1]. Doppler ultrasound is a valuable non-invasive method for examination of the innominate artery. The duplex Doppler ultrasonography method allows to determining vessel geometry and narrowing, as well as changes in the spectral characteristics of the flows [2-4]. Subsequent angiographic visualization of the atherosclerotic narrowed vessel segment allows to treat vessels with endovascular invasive methods and surgery [3,5].

CASE PRESENTATION

A 68-year-old man with hypertension and hypercholesterolemia, presented for evaluation of dizziness, headache, recurrent blurred vision, and episodes of syncope and pain in the right arm during physical activity. Arterial blood pressure was not measured in the right arm of the patient as well as barely discernable radial, ulnar, and branchial arterial pulses were observed on the right upper limb. Written informed consent was obtained.

We did color duplex ultrasound examination, which revealed retrograde flow in his right vertebral artery (Figure 1) and antegrade flow with systolic decelerationand tardus-parvus waveform in his right common carotid artery (Figure 2). This finding is characteristic for subclavian-vertebral steal [2]. On the other side, increased antegrade low -resistance flow in the left vertebral artery (Figure 3) and increased antegrade flow in the left common carotid artery (Figure 4) are observed. This condition is due to the acceleration of flow in the left-sided vessels to meet the increased demand on the right side [1,3].

During the examination of the innominate artery, accelerated flow with aliasing effect in the color Doppler mode and a significant increase in the flow speed of the critical narrowing zone were observed in the spectral Doppler mode (Figures 5, 6).

The feature angiographic evaluation demonstrated 90% stenosis of the innominate artery. Endovascular stenting was applied to the patient and enabled normal antegrade flow in the right common carotid and vertebral artery.

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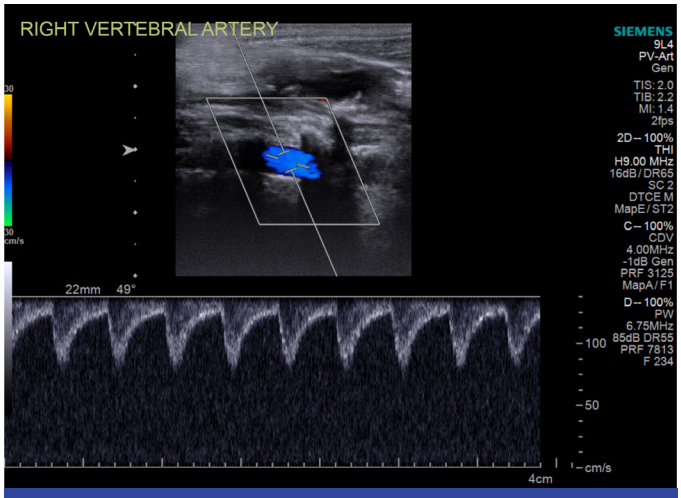

Figure 1. Retrograde flow in the right vertebral artery

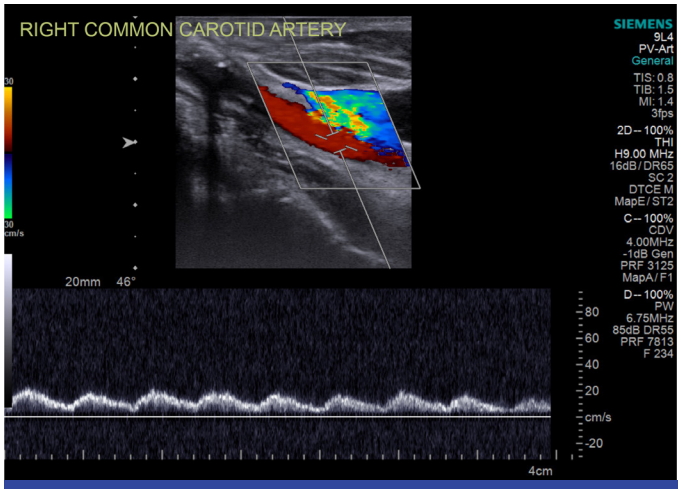

Figure 2. Antegrade flow with systolic deceleration, tardus-parvus waveform in the right carotid artery

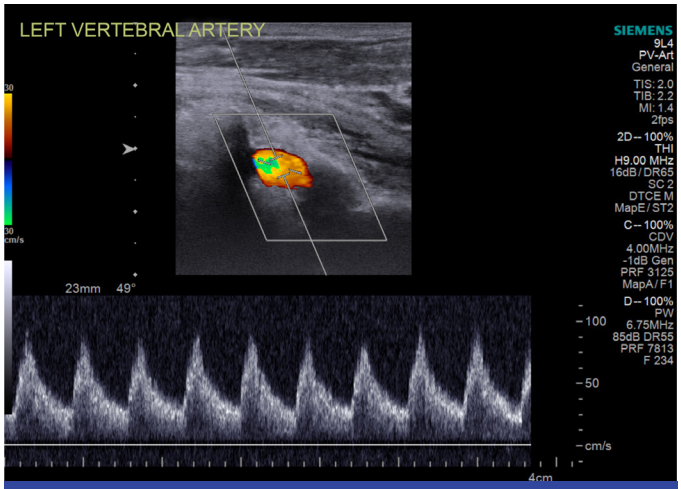

Figure 3. Antegrade low resistance flow in the left vertebral artery

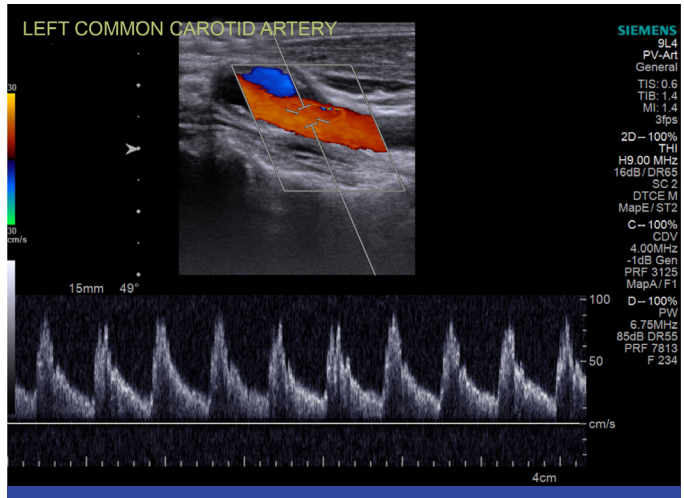

Figure 4. Increased antegrade flow in the left common carotid artery

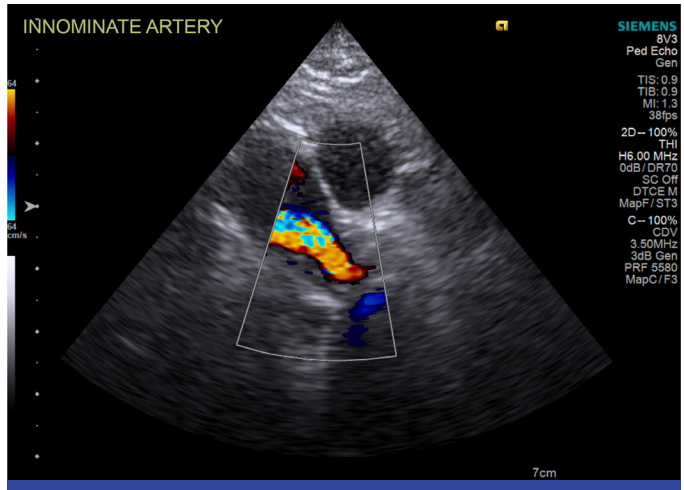

Figure 5. Accelerated flow with alaising effect in color Doppler mode inthe innominate artery

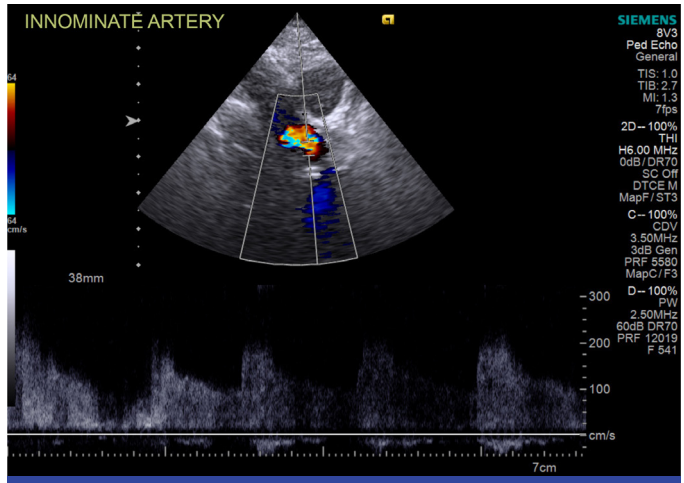

Figure 6. Significant increase in flow speed of the critical narrowing zone in spectral Doppler mode of the innominate artery

DISCUSSION

The main cause of innominate artery steno-occlusive disease is most frequently atherosclerosis. Other vascular diseases such as Takayasu arteritis, giant cell arteritis, radiation, and fibromuscular dysplasia are also potential etiologies for innominate artery steno-occlusive damage [6]. Symptomatic atherosclerotic steno-occlusive disease of the innominate artery represents 2.5-4% of all extracranial causes of cerebrovascular insufficiency [1]. Clinical manifestations of innominate steal can include symptoms referable to the posterior circulation (dizziness, vertigo, ataxia, diplopia, limb weakness), symptoms referable to internal carotid artery territory ischemia (global cerebral hypoperfusion, amaurosis, aphasia, left hemiparesis), or exertional right upper extremity discomfort [6].

In our case, we observed clinical symptoms referable to the posterior circulation (recurrent blurred vision, dizziness, headache, syncopal episodes), pain in the right arm during physical activity, diminished radial pulse, and arterial pressure in the right upper extremity.

Here, we demonstrated how characteristic features of the flow patterns in the vertebral and carotid arteries and in the narrowing zone of the innominate artery can be detected using duplex ultrasonography. Partial or complete reversal of flow in the ipsilateral vertebral artery is a hallmark feature of innominate artery stenosis and subclavian steal phenomenon [1,6]. Spectral Doppler flow patterns in the carotid arteries distal to severe innominate stenosis are more variable due to multiple potential collateral pathways for reconstituting the carotid circulation. In our case, collateral pathways were reconstituted via the basilary artery, and the Circle of Willis did not participate in this reconstruction [1,4]. Thus, the spectral Doppler waveforms in the right vertebral artery are retrograde flow and in the common carotid artery is antegrade but blunted, and we observed tardus-parvus waveform flow pattern in the common carotid artery.

Doppler ultrasound is a valuable noninvasive method for the examination of the innominate artery and extracranial arteries. The duplex Doppler ultrasonography method allows to determine the vessel geometry and narrowing, and changes in the spectral characteristics of the flows. There are very few examples in the literature of direct visualization of the narrowing zone by the use of Duplex Doppler ultrasound in the innominate artery. This is mainly due to the limited visualization area by the clavicle. We used a sectorial probe for a deeper penetration to determine the narrowing zone in the innominate artery and obtained color Doppler imaging of the flow in the narrowing zone. Then, we determined high flow velocities in the constriction zone by using spectral Doppler. Endovascular stenting was applied to the patient and enabled normal antegrade flow in the right common carotid and vertebral artery.

Detection of narrowing zones in the extracranial vessels by duplex Doppler subsequently leads to angiographic visualization of the atherosclerotic narrowed vessel segment and enables treatment of vessel with endovascular invasive methods and surgery [3,5].

In conclusion, duplex Doppler ultrasound is a noninvasive and effective method for detection of steno-occlusive atherosclerotic diseases of the cranial arterial system. Here, we demonstrated a critical stenosis of the innominate artery determined by duplex Doppler which was confirmed by following angiography. Duplex Doppler ultrasound is therefore could be a cheaper and easily accessible diagnostic alternative in resource-limited conditions.

Ethics

Informed Consent: Written informed consent was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: G.M., A.A., S.A., Concept: G.M., A.A., S.A., Design: G.M., A.A., S.A., Data Collection or Processing: G.M., A.A., S.A., Analysis or Interpretation: G.M., A.A., S.A., Literature Search: G.M., A.A., S.A., Writing: G.M., A.A., S.A.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

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