

Leiomyoma at gastroesophageal junction causing uncontrolled hypertension and arrhythmia



Abstract

A case of leiomyoma at gastroesophageal (GE) junction was identified in a male patient with uncontrolled hypertension and arrhythmia. Patient came with chief protestations of body pains, burping, stomach pain and uncontrolled hypertension. He was with oral medications like amlodipine 5 mg, pantoprazole 40mg, clopidogrel 75 mg, vitamin supplements and syrup antacid. His blood pressure was 150/100 mmHg. He has elevations of direct bilirubin-0.03mg/dl and basic phosphate-192U/L. Esophagus endoscopy determines 23 × 22 mm size mixed echoic lesion with deformed cells at GE junction. His ECG demonstrates cardiac arrhythmias. Endoscopic ultrasonography and cardiac MRI identifies a mass from the submucosal layer at GE junction compressing the esophageal veins. Fibroids at GE junction were removed by thoracoscopy. Histopathological examination confirms leiomyoma with an impression of round mass lesion composed of bundle of spindle cells arranged like braid with minimal abnormal and enlarged nuclei. To his previous prescription ceftriaxone 500 mg and ibuprofen 400 mg were included.

Key words: Leiomyoma, uncontrolled hypertension, arrhythmia, gastroesophageal junction, mixed echoic lesion, stomach pain

Introduction

Leiomyoma, also called as fibroids, represent to a hyperproliferation of interweaving bundles of benign smooth muscle cells which leads to tumor formation that may infrequently progress cancer (0.1%) [1]. Fibroids normally emerge as intramural developments, most regularly along the distal two-thirds of the esophagus [2]. The symptoms of leiomyoma resemble epigastric pain, heartburn, regurgitation, epigastric discomfort, nausea and vomiting, abdominal bloating, and eructation [3]. Esophageal leiomyoma significantly begins from muscularis mucosa or muscularis propria found to develop in distal and middle thirds of the esophagus [4].

Enzymes such as alkaline phosphatase (ALP), acid phosphatase (ACP) and aspartate transaminase (AST) can be used as tumor marker [5]. Tumor markers are produced in small concentration by normal cells but increase its concentration when produced by tumor cells [6].

Endoscopic ultrasonography is viewed as the best technique for the determination of sub-mucosal lesion [7,8] which finds the size of leiomyoma and some study reports says

endoscopic ultrasonography distinguishes the exact presence of homogeneous and hypoechoic sore with a clear margin in the five-layered structure of gastrointestinal wall [9,10]. Cakar et al revealed a patient with esophageal leiomyoma giving dynamic dyspnoea and fatigue; echocardiogram, CT scan and cardiac MRI showed extrinsic left atrial compression and impaired left atrial filling that was relieved after enucleation of the mass through thoracotomy [11]. Kang SK et al detailed a pathological examination of fibroid which it was appeared as circumscribed lesion composed of intersecting fascicles of bland spindle cells with the abundant cytoplasm of smooth muscle cells which are of the spindle type arranged as braids. These spindle tumor cells have blunt elongated nuclei and show a minimal atypia [12].

A few studies show esophageal leiomyomas presents with serious and uncontrolled hypertension. Kang SK et al additionally shows leiomyomas in the distal esophagus can turn into a large size and press on the cardia of the stomach [12]. A study report shows esophageal vein compression involves in the activation of sympathetic nervous system with

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a baroreflex of the baroreflex pathway as a result of venous pooling and decreases the cardiac output which leads to orthostatic hypertension [13]. KG Mc Manus et al also detailed a case report of leiomyoma of the esophagus giving heart dysrhythmia yet there is no clear data in a connection of leiomyoma with dysrhythmia [14]. Arrhythmias are the most serious complications of an ischemic attack caused by coronary spasm and initially, arrhythmias can be evaluated by angina symptom [15].

A case study demonstrates the histology of esophageal leiomyoma that a tumor is composed of irregularly oriented bundles of well-differentiated smooth-muscle cells [13].

Case Presentation

A male patient aged 58 years admitted to hospital with chief complaints of general body pains, belching, upper abdominal pain and uncontrolled hypertension. He was a known instance of hypertension and acute coronary disorder (ACS) i.e. unstable angina. He is under the medication with tablet amlodipine 5 mg OD, tablet pantoprazole 40 mg OD, antacid syrup, tablet clopidogrel 75 mg and vitamin supplements. During hospitalization, his blood pressure was uncontrolled and determined with 150/100 mmHg and pulse rate 89 beats per minute. At first, doctors accepted with the condition of acute gastroenteritis. In lab examinations it was observed to be with depleted levels of hemoglobin-10.00 g/dL, MCV-72.9 fL/red cell, MCH-22.8, MCHC-31.3 and normal levels of red blood cells count, white blood cells and platelet count. It was comprehended with microcytic hypochromic anaemia, mild anisopoikilocytosis. His liver function tests reveal raised levels of direct bilirubin-0.03 mg/dl and alkaline phosphate-192 U/L. His esophagus endoscopy reveals 23 × 22 mm measure mixed echoic injury with disfigured cells found at gastroesophageal (GE) junction. He was additionally determined to have cardiac arrhythmias with an ECG report. Endoscopic ultrasonography decided a mass originated from the sub-mucosal layer. A cardiovascular MRI was performed to examine the connection among heart and vessels and it was distinguished a round mass originated from the GE junction compressing the esophageal veins which line in the esophageal mucosa. This packed esophageal vein is draining specifically into the superior vena cava.

The patient was treated with surgical resection through a thoracoscopy for the evacuation of fibroids at GE junction and the histopathological examination of fibroids confirms the analysis of leiomyoma which appears to be round mass lesion composed of a bundle of spindle cells arranged as twists with negligible abnormal and extended nuclei. He was preceded with a similar medication treatment after his thoracoscopy and also endorsed with tablet ceftriaxone 500 mg and tablet ibuprofen 400 mg during his discharge. He was looked into following few weeks and observed to be relieved from uncontrolled hypertension.

Discussion

This is a very first case to diagnose the condition of leiomyoma at exact location i.e. GE junction which caused the patient with uncontrolled hypertension and arrhythmia. Patient's chief complaints such as body pains, belching and the upper abdominal pain were due to his diagnosed condition of GE leiomyoma.

Patient's depleted levels of hemoglobin-10.00 g/dL, mean cell volume-72.9 fL/red cell, MCH-22.8; MCHC-31.3 indicates the presence of microcytic hypochromic anaemia and mild anisopoikilocytosis. Elevated levels of patient's bilirubin and alkaline phosphate were due to its production from fibroids.

His oesophagus endoscopy found to be with 23 × 22 mm size mixed echoic lesion with deformed cells at GE junction. For further understanding, endoscopic ultrasonography identifies a mass which was originated from the sub-mucosal layer indicated as the presence of fibroids originated from the muscularis mucosa.

Cardiac MRI was done to investigate the relation between heart and vessels and was detected the round mass at GE junction, compressing the esophageal veins which line in the oesophageal mucosa. Some studies reveal compressed esophageal veins involve in the activation of the sympathetic nervous system with a failure of the baroreflex pathway as a consequence of venous pooling and decrease the cardiac output which leads to hypertension and with the same reason patient has reported with uncontrolled hypertension.

The patient was also reported with cardiac arrhythmias but there is no clear data to describe its relation. But it was speculated that there was a high density of sympathetic nerve fibres between the atrium and oesophagus and a sympathetic

neural reflex may have triggered the arrhythmia [13]. As arrhythmias have the complication of ischemic attack, its initial symptom will be with angina.

The diagnosed fibroids at GE junction were removed by thoracoscopy method. Histopathological examination of resected fibroids was observed to be round mass lesion with a bundle of spindle cells arranged as a thread like structure appearance with abnormal and elongated nuclei.

He was prescribed with tablet amlodipine 5 mg OD, tablet pantoprazole 40 mg OD, antacid syrup, tablet clopidogrel 75 mg, vitamin supplements, tablet ceftriaxone 500 mg and tablet ibuprofen 400 mg during his discharge. He was reviewed after a few weeks and found to be relieved from uncontrolled hypertension.

Conclusion

This is a remarkable case report of leiomyoma which occurs at GE junction which caused uncontrolled hypertension and arrhythmia. After the thoracoscopy treatment the patient finally went well with a controlled hypertension with a prescribed medication and life style changes.

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Conflict of Interest

No authors have a conflict of interest for the publication of this article.

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