

Multiple Huge Benign Mesenchymoma in Esophagus

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Abstract

Benign mesenchymoma is an extremely uncommon neoplastic disease and its occurrence in esophagus is even more rarely reported. One rare case of multiple huge benign sub mucosal oesophageal mesenchymoma is presented in this paper. One patient was treated by tumor removal via a thoracic approach. The paper discusses the therapy and diagnosis of mesenchymomas.

Keywords: Esophagus; Benign Mesenchymoma; Diagnosis; Therapy

Introduction

Benign mesenchymoma is an extremely rare neoplasm mostly located in or about the kidney and is composed of a haphazard mixture of adult fat, fibrous tissue and tangled blood vessels, scattered nests or masses of smooth muscle cells, occasionally islands of cartilage, bone, and lymphoid tissue as well as other mesenchymal elements [1]. Benign mesenchymoma in esophagus is an extremely rare neoplasm and only a few cases were documented in the literature.

Case Report

A 55 year old man was admitted into our hospital with a chief complaint of dysphagia of 1 month duration. Physical examination revealed no abnormalities, except for hypo chromic microcytic anemia with a haemoglobin level of 107 g/L. The laboratory findings were within normal limits.

An upper gastrointestinal endoscopy revealed an irregular protruded mass occupying the esophageal lumen from the canine. We could see obvious uplifts in Mucosa from the esophageal entrance to the incisors 30cm under gastro scope, and a little erosion at the far end. Computed tomography revealed the whole esophagus lumen was full of irregular masses whose maximum transverse diameter was 40mm and its density was not homogeneous (Figure 1,2,3). Barium swallow examination revealed obvious dilatation of the esophagus, multiple irregular filling defects and unsmooth walls (Figure 3).

Under general anesthesia a right poster lateral thoracostomy through the fifth intercostals space was performed on December

24, 2014. Two 12cm×4cm×1.5cm and 12cm×4cm×1.5cm masses were identified with their base located in the junction of the cervicothoracic junction of the esophagus. The tumors had solitary pedicles and originated from the lateral wall of the esophagus with their bodies hung down inside the esophageal lumen by their gravity. The complete excision was performed. And the two tumors were not too necrotic with smooth surfaces. A nasogastric tube was kept in place for 1 week. The patient recovered well after surgery and was discharged after the operation. At the end of this period esophagography showed that the passage was completely intact without any filling defects or diverticulae. After 39 months the patient was symptom free and without any clinical complaints (Figure 4).



Figure 1: Computed tomography revealed the whole esophagus lumen was full of irregular masses whose maximum transverse diameter was 40mm and its density was not homogeneous. Most of them were fat density, mediastinum and no enlarged lymph nodes.

Pathological Finding

Pathologic examination revealed a benign mesenchymoma of the upper portion of the esophagus. Macroscopic examination of the excised specimen consisted of two well capsulated masses measuring 12cm×4cm×1.5cm and 12cm×4cm×1.5cm in their largest diameters. The tumors were polyp-like and all had developed from the sub mucosal layer of the lateral wall of esophagus. It was rubbery in consistency. A cut surface revealed

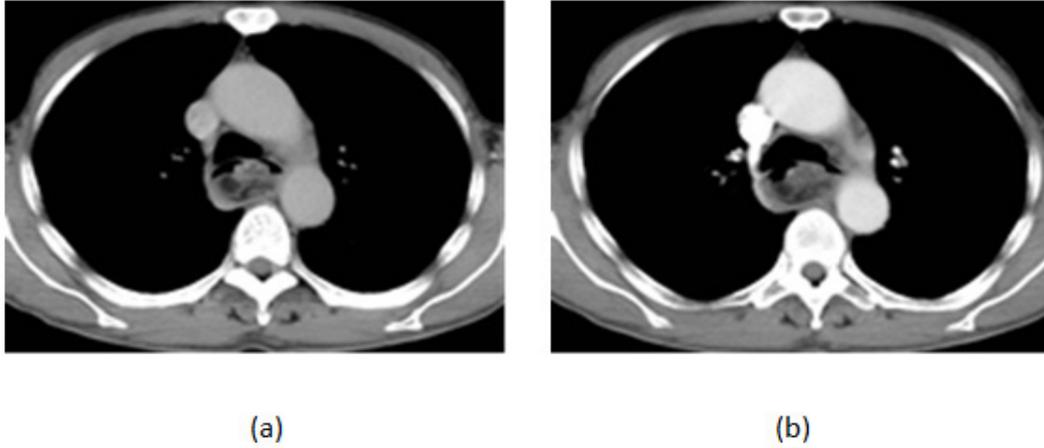


Figure 2: Were chest enhanced computed tomography of the same segment of the arteries and veins, respectively. They show that most of the esophageal masses are not significantly enhanced, and the fat area is slightly enhanced and there are no enlarged lymph nodes in the mediastinum and bilateral hilar area.



Figure 3: Barium swallow examination revealed obvious dilatation of the esophagus, multiple irregular filling defects and unsmooth walls.

a grayish-white, slightly trabecular appearance with randomly distributed irregular soft yellow areas. Microscopic examination of the sections taken from different parts of the mass appeared to be composed of mainly fat tissue vascular elements and interstitial fibrous tissue of differentiated without obvious atypia cells and we could see covering squamous epithelia (Figure 5,6). Immunohistochemical staining for SMA and Desmin in vascular smooth muscle cells was positive, and S100 adipocytes, Vimentin and CD34 vascular endothelium were positive, (Figure 7,8,9,10,11) which indicated benign mesenchymoma in oesophagus.



Figure 4: Postoperative upper gastrointestinal tract angiography of the esophagus.

Discussion

Mesenchymoma was put forward by American pathologist Stout in 1948. It refers to a compound tumor that contains at least two or more than two species of interfoliate tissue in the same tumor, except extracellular matrix [1,10,11]. Almost no tissue mesenchymoma is identical. According to the degree of tumor differentiation, it is divided into benign and malignant. Benign mesenchymal tumor originates from mesodermal multipotent primary mesenchymal cells and it can be differentiated into multiple leaf components and complex tumors in different

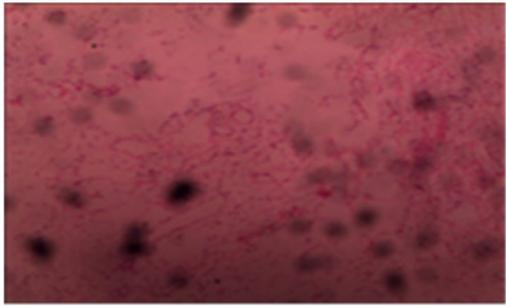


Figure 5: Frozen section showed no significant atypia (HE staining, * 10).

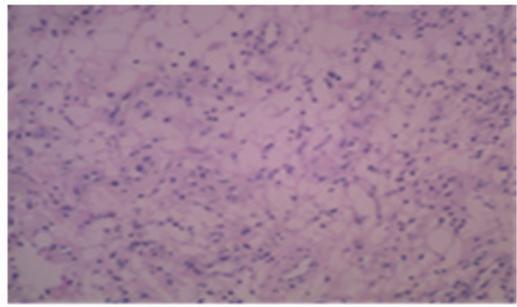
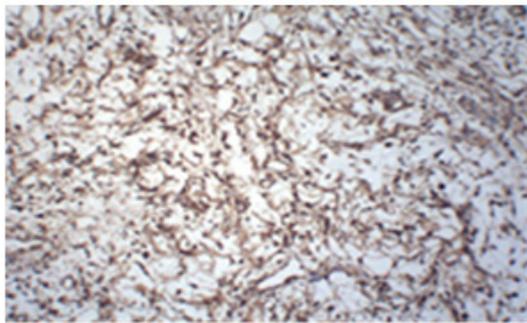
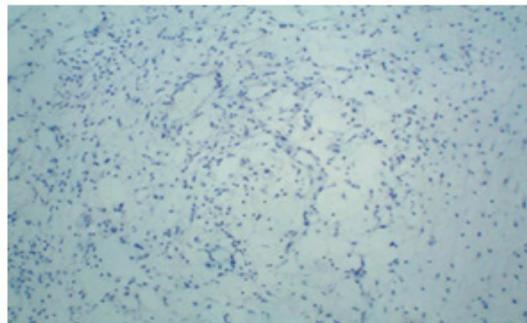


Figure 6: Pathological paraffin section showed fibrous tissue, blood vessels and differentiated adipocytes hyperplasia (HE staining, * 10), (HE staining, x 10), (HE staining, x 10)

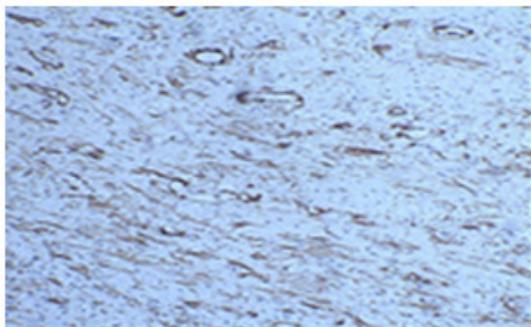


vimentin (+)×100

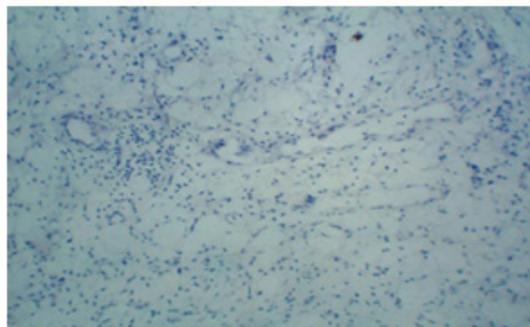


vimentin (-)×100

Figure 7: Immunohistochemical

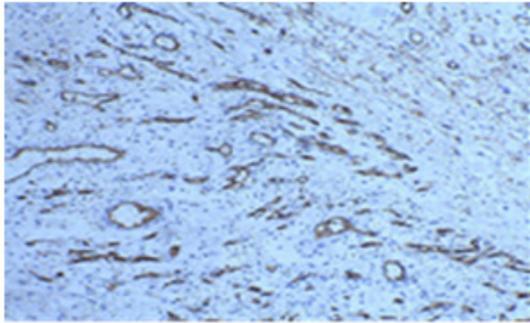


SMA (+)×100

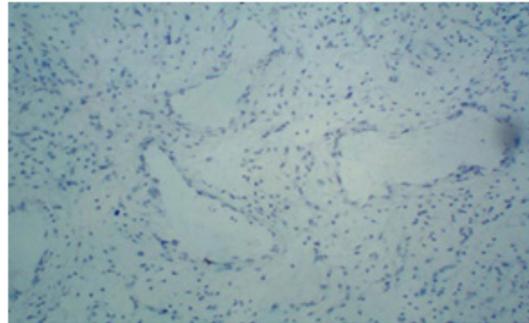


SMA (-)×100

Figure 8: Immunohistochemical

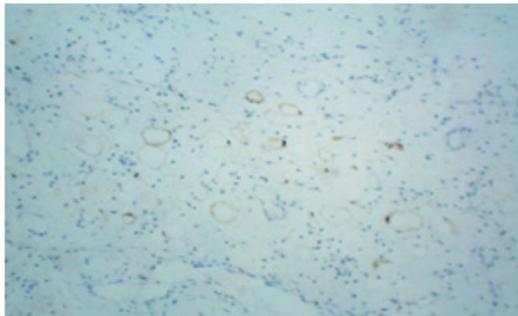


CD34(+) \times 100

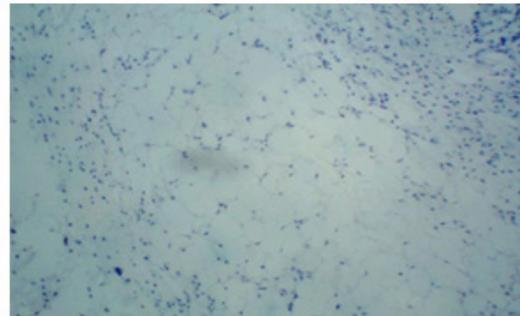


CD34(-) \times 100

Figure 9: Immunohistochemical

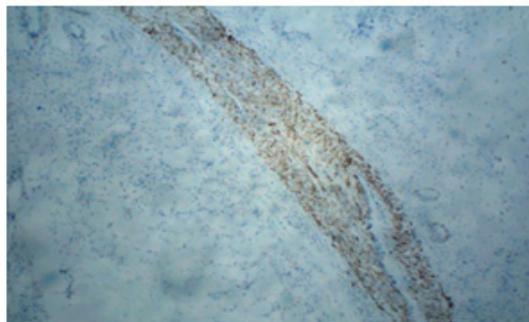


S100(+) \times 100

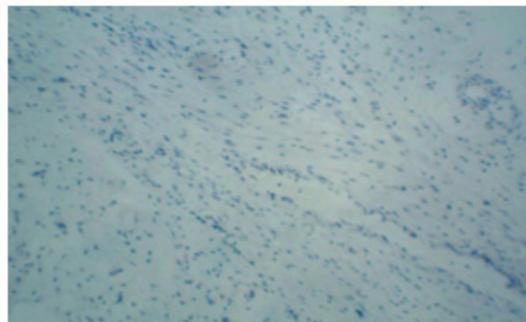


S100(-) \times 100

Figure 10: Immunohistochemical



desmin(+) \times 100



desmin(-) \times 100

Figure 11: Immunohistochemical

directions under the change of microenvironment. Tumor tissue structure, hardness, color and cell morphology were similar to those of normal tissue. It contains a variety of well differentiated meso leaf components, such as fibrous tissue, blood vessels, adipose tissue, smooth muscle, striated muscle, mucous tissue, lymph hematopoietic tissue, bone and cartilage. Some scholars believe that tumors are from proliferative lesions of normal tissues [1]. Tumor can occur in soft tissues of all parts of the

body, mainly in limbs and trunk, followed by mediastinum and retroperitoneum. A few are found in organs such as liver, kidney and ovary and they are rare in digestive tract [2,3,4].

Esophageal benign tumors account for 0.5% to 0.8% of all esophageal tumors. Benign mesenchyme tumors occurring in the esophagus are very rare, especially the huge ones like our case. Most of them are located in the esophageal muscular layer or sub

mucosa, and most of them are solitary. They are often isolated giant masses. There are no obvious symptoms in the early stage. In the late stage, with tumor enlargement, clinical manifestations such as eating, peduncle, choking, dysphagia and chest pain can be gradually appeared. If the tumor surface is caused by ischemia and hypoxia, it will cause severe erosion or ulceration and anemia associated with upper gastrointestinal tract causing anemia. Benign mesenchyme tumor of the esophagus is prone to be misdiagnosed because of its low incidence. Special attention should be paid to the differential diagnosis of esophageal cancer, esophageal polyp, esophageal leiomyoma, esophageal neurofibroma, achalasia and esophageal cyst. CT and MRI can be used to determine the size and extent of tumor and the relationship with mediastinum and to identify tissue components in fat, muscle, bone, blood vessels and other tumors. By observing the edge and density of tumor tissue, it can be judged that its properties are important for preoperative diagnosis and determination of the way of operation [12]. Gastroscopy can show the exact location of the tumor and the shape of the cavity, and may be helpful to find the location of the tumor pedicle. Endoscopic ultrasonography has become a new important examination method in recent years, which can accurately show the origin of tumor. The boundaries of the origin of the second, third layers have relatively clear, very irregular mixed echo ultrasonic features through endoscopic ultrasonography, which is helpful for differential diagnosis of esophageal stromal tumor, leiomyoma, lipoma and extra esophageal tumor.

Progressive dysphagia was the main manifestation of this patient, its image examination indicated massive intraluminal mixed mass. Pathological paraffin sections showed the interweaving of a large number of well differentiated fibrous tissue, vascular smooth muscle and adipose tissue. Immunohistochemical stainings for SMA and Desmin in vascular smooth muscle cells were positive, and S100 adipocytes, Vimentin and CD34 vascular endothelium were positive, which indicated benign mesenchymoma in oesophagus. Above all, the diagnosis was huge esophageal benign mesenchyme tumor. The tumor size in the operation was two 18cm, 4cm x 4cm, 12cm x 4cm x 4cm, respectively. The pedicle was located at the junction of the cervix of the esophagus and the upper chest, and the tumor section is pale yellow. The tumor in our case was from the sub mucosa, and the surface of the tumor is far away from the pedicle with poor blood supply. The tumor was polypoid hyperplasia and degeneration due to edema and degeneration of sub mucous tissue and the secretion and exudation of the cells. Because of the driving of the peristaltic and swallowing food of the esophagus and the gravity action of the tumor itself, the tumor gradually elongated to form a pedicled mass with tissue high edema at the distal end. In addition, there were no nerve innervations in both blood vessels and glands in the tumor tissue, leading to the expand of glands that loses innervation and vascular hyper permeability. These pathological changes were the main cause of huge tumor growth [5].

The growth of benign meso stromal tumor of the esophagus is slow, with or without intact capsule. It has a tough texture and often has adhesions with the surrounding tissue. Its section is off-white, lark, grayish red, flaxe, dark red. There is almost no malignant change in benign meso lobes. For these giant esophageal benign tumors, surgical resection is the main treatment, but there is no accepted standard surgical method yet. For the tumor that does not involve the mucosa of the esophagus, in order to protect esophageal mucosal integrity, it is feasible to excised tumor only. If the tumor is tightly attached to the esophageal mucosa with relatively small volume and it's not large scope (not exceeding the perimeter of the esophagus 1/3), it is also suitable for simple resection of tumor. If the esophageal mucosa cannot be avoided during the operation, It is better repair the mucous membrane of the esophagus. If the volume of the tumor is larger and tumor and esophageal mucosa are widely close adhesion (exceeding the perimeter of the esophagus 1/3), Strong separation of the esophagus can easily damage the mucosa of the esophagus. In the circumstance, it is suitable to perform esophagectomy and esophagogastrotomy. After operation, gastrointestinal decompression and closed thoracic drainage were performed, and fever and chest pain were observed closely. The prognosis of patients is generally good, but about 20% of patients still having recurrence after surgery [1]. It is worth noticing that benign esophageal mesoaneurysm occurs in infants may have differentiation of immature region, but after a period of growth, it often stops automatically and easily misdiagnosed as malignant mesenchymal tumor [6].

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