CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 41 (2017) 292–295

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

A giant mediastinal liposarcoma weighing 3500 g resected with clam shell approach, a case report with review of literature

Yasoo Sugiura*, Toshinori Hashizume, Hiroyuki Fujimoto, Etsuo Nemoto

Department of General Thoracic Surgery, National Hospital Organization, Kanagawa National Hospital, 666-1 Ochiai Hadano, Kanagawa 257-8585, Japan

ARTICLE INFO

Article history:
Received 7 September 2017
Received in revised form 30 October 2017
Accepted 30 October 2017
Available online 7 November 2017

Keywords:
Liposarcoma
Mediastinum
Calm shell approach
Adjuvant therapy
Case report

ABSTRACT

INTRODUCTION: Liposarcoma is rare in the mediastinum and is less than 1% of all mediastinal tumors. In the present report, we demonstrated our case and summarized the principal treatment of the mediastinal liposarcoma with literature review.

PRESENTATION OF CASE: A 50-year-old man presented at our hospital with complain of dyspnea. Chest radiography showed remarkable cardiomegaly. Computed tomography revealed an anterior mediastinal tumor from the level of the cephalic vein to the diaphragm of bilateral thoracic cavity with fat component. Using clam shell approach, complete en bloc resection of the tumor was performed. The weight of the tumor was 3500 g. The pathological findings were 0that size of adipocyte and lipoblast were different, and the nuclei of atypical stromal cell were misshapen. Immune-histologic examination was negative for MDM2 and cyclin-dependent kinase 4. The diagnosis was liposarcoma, well-differentiated type. He could discharge 10 days after surgery. Without adjuvant therapy, disease free survival for three years has passed.

DISCUSSION: From 1990–2016 in Japan, 60 cases of the mediastinal liposarcoma were reported. In analysis of the 61 cases including the present case, adjuvant therapy was performed in 14 cases, subsequently, and recurrence was recognized in 5 cases. Adjuvant therapy did not significantly suppress the recurrence.

CONCLUSION: Mediastinal liposarcoma weighing 3500 g could be resected using calm shell approach, and no recurrence interval for 3 years has been achieved without adjuvant therapy. Complete resection is the only means to achieve the favorable outcome in mediastinal liposarcoma.

1. Introduction

Liposarcoma is rare in the mediastinum [1,2]. Complete resection is the only means to achieve the favorable outcome in the cases of sarcoma including liposarcoma [3]. In the cases of mediastinal liposarcoma, resection with fully margin is difficult because the vital organs surround the mediastinum. In the present case, we accomplished complete resection for the giant liposarcoma weighing 3500 g, using clam shell approach. We report the case with literature review of 60 cases from 1990 to 2016 in Japan, because there is hardly study with analysis about the significance of an adjuvant therapy for the mediastinal liposarcoma. This work has been reported in line with the SCARE criteria [4].

2. Presentation of case

A 50-year-old man presented at our hospital with the complain of dyspnea. Chest radiography showed remarkable cardiomegaly (Fig. 1A). He did not have any past medical history, family history and any relevant genetic information. His smoking history was 2 packs per day for 30 years and his occupation was a truck driver. Computed tomography and magnetic resonance imaging revealed a giant anterior mediastinal tumor with fat component and there was a nodule with calcification partially (Fig. 1B, C and D). The tumor extended from the space of the mediastinum at the level of the cephalic vein to the diaphragm of bilateral thoracic cavity. We considered that the difference diagnosis of the tumor was mediastinum liposarcoma or teratoma. Surgical resection was planned to relive the dyspnea.

We chose clam shell approach at bilateral the fifth intercostal level to assure the safe operation field in the both the anterior mediastinum and the bilateral thoracic cavity. The first author who has been a surgeon for 10 years was the operator. The tumor adhered loosely to the chest wall, the cardiac sac and the diaphragm. The tumor could be mobilized with energy devices from the surrounded anatomical structures. Two thin veins flowing into the cephalic vein from the tumors were ligated. A complete en bloc resection of the tumor including an entire capsule was performed. The weight of the tumor was 3500 g (Fig. 2A). In the findings of hematoxylin and eosin stain, the size of adipocyte and lipoblast were different, and the nuclei of atypical stromal cell were misshapen (Fig. 2B). The nodule lesion was surrounded a scar-formed fibrosis and fell into necro-

* Corresponding author.
E-mail address: dryasoo@outlook.com (Y. Sugiura).

https://doi.org/10.1016/j.ijscr.2017.10.055

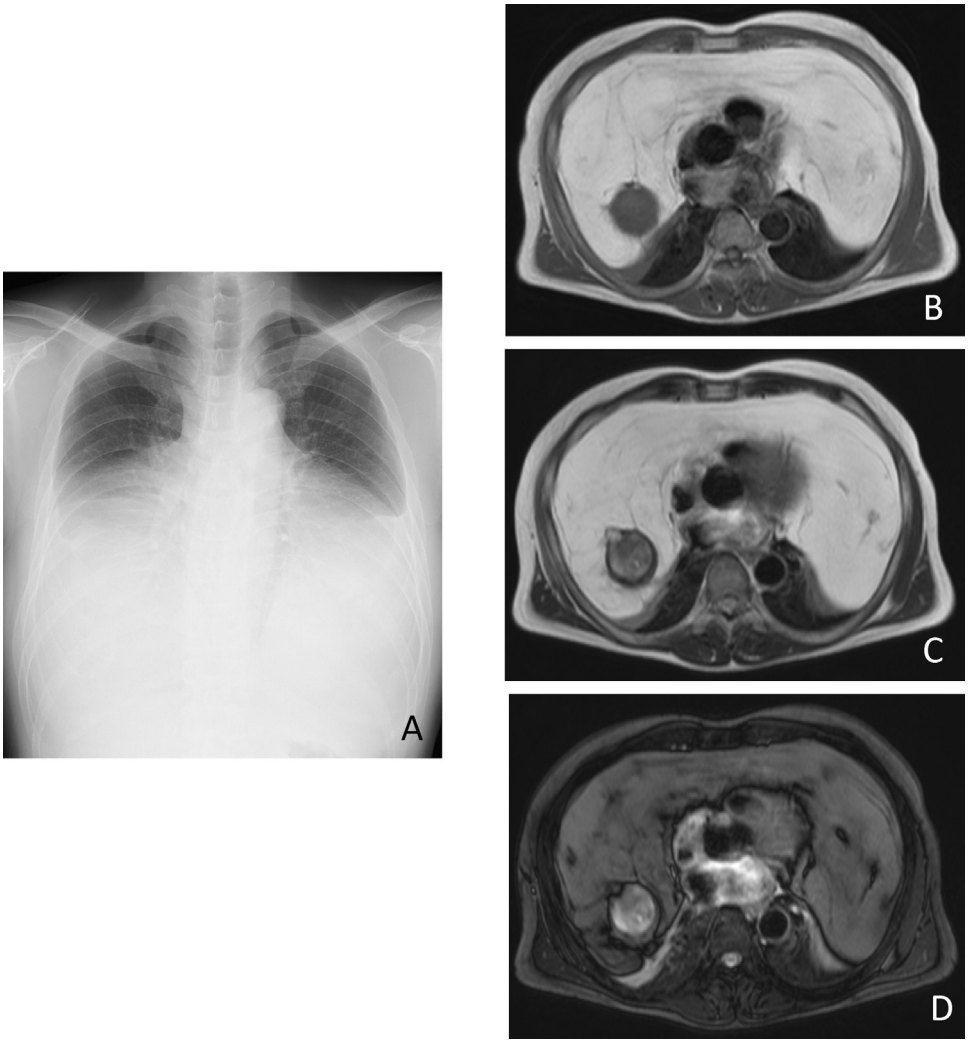

Fig. 1. Chest radiography (A) showed remarkable cardiomegaly. T1-weighted image (B), T2-weighted image (C) and fat suppression T2-weighted image of magnetic resonance revealed a giant anterior mediastinal tumor with fat component, suggesting liposarcoma.

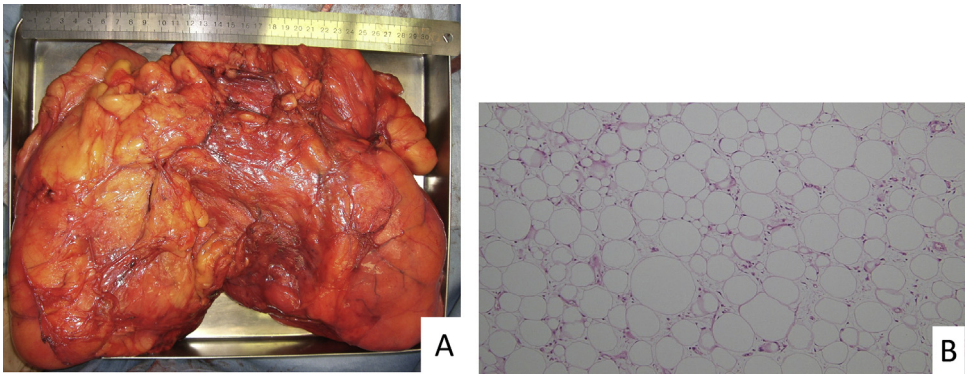

Fig. 2. The weight of the resected liposarcoma was 3500 g (A). In the findings of hematoxylin and eosin stain, the size of adipocyte and lipoblast were different, and the nuclei of atypical stromal cells were misshapen (B).

sis in the center. Immune-histologic examination was negative for MDM2 and cyclin-dependent kinase 4. The final pathological diagnosis was liposarcoma, well-differentiated type. He could discharge on 10 days after surgery without dyspnea. Without adjuvant therapy, disease free survival for three years has passed in checking the recurrence by CT every 6 months.

3. Discussion

Liposarcoma arises from precursors of adipocytes and mediastinal liposarcoma is less than 1% of all mediastinal tumors [2]. Liposarcoma is classified into 5 histologic subtypes: myxoid, well-differentiated, dedifferentiated, pleomorphic and mixed liposarcoma [1]. In general, the principle of the treatment for