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Refractory bleeding from a giant de-differentiated liposarcoma of the chest wall: An indication for neoadjuvant chemotherapy and palliative resection? – A case report

Tunde Nureini Oyebanji[a,*], Ganiyu Oyediran Oseni[b], Ismail Mohammed Inuwa[a], Jameel Ismail Ahmad[a], Sadiq Garba[c], Lawal Yusuf[d]

[a] Cardiothoracic Unit, Department of Surgery, Bayero University, Kano/Aminu Kano Teaching Hospital, Kano, Nigeria
[b] Plastic Surgery Unit, Department of Surgery, Aminu Kano Teaching Hospital, Kano/Ladoke Akintola University of Technology Teaching Hospital, Osogbo, Osun State, Nigeria
[c] Department of Anesthesia, Bayero University, Kano/Aminu Kano Teaching Hospital, Kano, Nigeria
[d] Department of Radiology, Bayero University, Kano/Aminu Kano Teaching Hospital, Kano, Nigeria

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ABSTRACT

INTRODUCTION: Dedifferentiated liposarcoma (DDLPS) is a heterogenous neoplasm of variable histological grade. DDLPS uncommonly arises from the chest wall. There are limited data available about the tumor's response to chemotherapy and accessible reports indicate minimal benefits. Surgery is thus the cornerstone of management. Here, we demonstrate an uncommon situation where chemotherapy was used to arrest bleeding from a giant DDLPS that was refractory to all available hemostatic agents. This case also presents an uncommon indication for palliative chest wall resection and reconstruction (CWRR).
PRESENTATION OF CASE: A 55-year old woman presented with refractory bleeding from an ulcerated and foul-smelling mass on the anterior chest wall, confirmed histologically to be DDLPS. Chemotherapy with Doxorubicin and Ifosfamide was used to control the bleeding. She subsequently had CWRR to improve her quality of life. The patient made an uneventful recovery but later died from pulmonary embolism.
DISCUSSION: The dedifferentiated component of DDLPS is vascular and may account for why we were able to exhibit a hemostatic response to chemotherapy. CWRR was then employed to improve the quality of life in an advanced, ulcerated and infected tumor of the chest wall.
CONCLUSION: We were able to demonstrate a hemostatic response of DDLPS to neoadjuvant chemotherapy and anticipate that this report may serve as a reference for further studies. Furthermore, we believe that palliative resection may be carried out to improve a patient's quality of life even in the face of advanced disease.

1. Introduction

Liposarcoma commonly originates from the retroperitoneum and limbs but the chest wall is an infrequent site of affectation [1]. De-differentiated liposarcoma (DDLPS) is one of its histologic subtypes. DDLPS is a heterogenous neoplasm with one component being well-differentiated and the other a non-lipogenic sarcoma of variable histological grade. Limited data regarding the sensitivity of DDLPS to chemotherapy are available, with minimal reported benefit [2]. These reports are, however, mostly about retroperitoneal DDLPS. Reports on chest wall DDLPS are scanty. Surgery is thus the cornerstone of treatment of chest wall liposarcoma. Refractory bleeding with severe anemia, malodorous discharge, depression and interference with activities of daily living may sometimes complicate a giant ulcerated DDLPS of the chest wall, reducing the quality of life of the patient. Therefore, neoadjuvant chemotherapy and palliative resection may become clinically relevant, not only to improve survival but to better the quality of life of such patients.

Here, we report the case of a middle-aged woman who had neoadjuvant chemotherapy for recalcitrant bleeding that resisted all available hemostatic agents and subsequently had palliative chest wall resection and reconstruction (CWRR) for an advanced giant DDLPS of the chest wall.

This work has been reported in line with the SCARE criteria [3].

* Corresponding author at: Cardiothoracic Unit, Department of Surgery, Bayero University, Kano/Aminu Kano Teaching Hospital, PMB 3452, Zaria Road, Kano, Nigeria.
E-mail addresses: dhulnurein@yahoo.com (T.N. Oyebanji), osenioyediran@yahoo.co.uk (G.O. Oseni), imohammed7214@yahoo.com (I.M. Inuwa), iajameel@yahoo.com (J.I. Ahmad), sadiqgarba25@yahoo.com (S. Garba), lyusuf.rad@buk.edu.ng (L. Yusuf).

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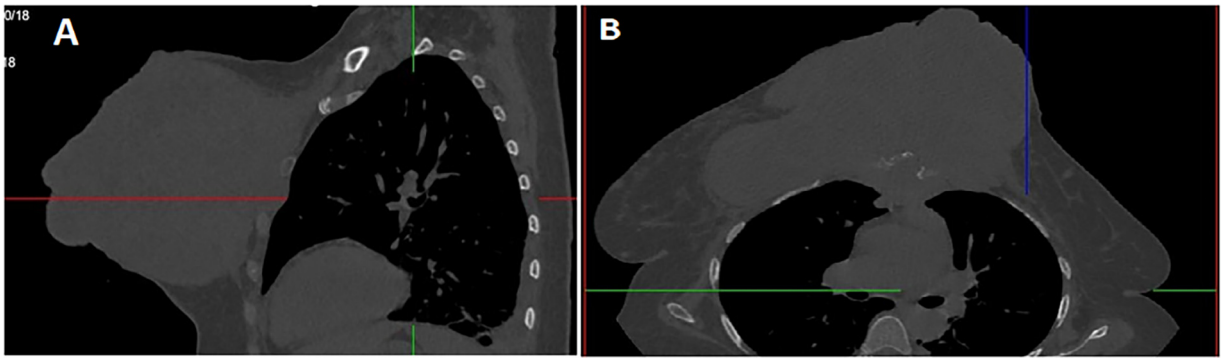

Fig. 1. (A) Coronal Reformat of chest CT scan show a huge hypodense soft tissue mass with irregular margins attached to the muscular layer of the chest wall (B) Axial section of the chest CT scan showing a huge hypodense soft tissue mass within the muscular layer of the anterior chest wall with underlying sternal invasion.

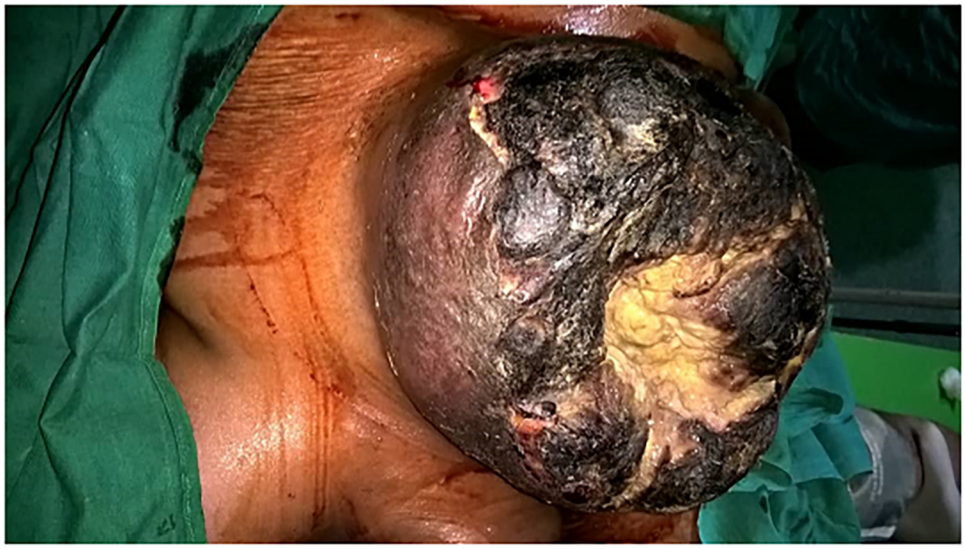

Fig. 2. Immediate preoperative period – Tumor with peripheral areas of necrosis and central yellowish area.

2. Case report

A 55-year old woman presented with a 16-year history of a mid-sternal, pea-sized mass which had maintained its proportions until 3 years prior to presentation when it started to increase in size and subsequently became painful. The mass was about 15 cm × 15 cm × 10 cm, firm, and attached to the underlying structures. There were no discernable peripheral lymph nodes. A tru-cut biopsy of the mass revealed pleomorphic sarcoma. She was subsequently counselled for a CWRR and chemotherapy but she refused and defaulted from the clinic. Two months later, however, she was admitted on account of bleeding from the ulcerated, fetid tumor with severe anemia. The packed cell volume (PCV) was 12%. Other hematologic parameters were within normal limits. She had 8 units of packed cells transfused and was also commenced on intravenous antibiotics and analgesics. Appropriate wound care was established and she was offered TED stockings for deep venous thrombosis (DVT) prophylaxis. A chest CT scan showed a huge hypodense soft tissue mass within the muscular layer of the anterior chest wall with underlying sternal invasion (Fig. 1). Bleeding from the tumor site was unresponsive to available hemostatic methods which necessitated the commencement of a trial neoadjuvant chemotherapy with Doxorubicin and Ifosfamide. Although this successfully stopped the bleeding, it was complicated by anemia and leucopenia, warranting additional units of blood transfusion and Filgrastim administration. She later went into depression associated with a reduction in her quality of life as a result of the malodorous wound discharge and the compressive weight of the tumor on the chest wall.

She was counselled for CWRR and had enbloc excision of the tumor (Fig. 2), part of the pectoralis major muscles, inferior half of the manubrium sterni, sternal body, xiphoid and adjacent costal cartilages (Fig. 3A & B) with a 4 cm tumor-free skin margin. The pericardium and lungs were free of macroscopic tumor. The excised tumor weighed 3.59 kg and was 25 cm×21 cm × 14 cm in dimension. The bony defect was reconstructed with methylmethacrylate sandwiched between two Prolene meshes (Fig. 4A). Primary closure of soft tissue was achieved by local flap (Fig. 4B). The histology revealed sheets of malignant lipoblasts with areas of heterologous differentiation predominantly myogenic as well as areas of pleomorphic sarcomatous pattern (Fig. 5).

Recovery was uneventful in the intensive care unit. She however suffered a massive pulmonary embolism about thirty-six hours after the surgery and attempts to resuscitate her proved abortive.

3. Discussion

Liposarcoma usually originates in the extremities and the retroperitoneum but rarely in the thorax [1,4]. It accounts for ≤20% of primary chest wall soft tissue sarcomas [5,6]. There is no gender difference and it most commonly affects people between 40 and 70 years [1]. Histologic variants of liposarcoma include well-differentiated (WDLPS), myxoid, pleomorphic (PLPS); liposarcoma not otherwise specified and dedifferentiated liposarcoma (DDLPS).