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Case Report

CASE REPORT

Rhabdomyosarcoma of the uterus with multiple metastases in a post-menopausal woman

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Abstract

Rhabdomyosarcoma (RMS) is a malignant soft tissue tumor, usually presenting in the head and neck in children, with frequent metastases to the lungs. In this report, we present a rare case of a post-menopausal RMS patient who presented with walking difficulties after hysterectomy. A computerized tomography scan revealed metastases spreading to the mediastinum, retroperitoneum, lungs, liver and bones. On a protocol of Gemcitabine and Carboplatin, the patient showed stability in the dimensions of the masses with significant improvement in her quality of life.

INTRODUCTION

Rhabdomyosarcoma (RMS) is a malignant tumor that originates from mesenchymal tissues [1], and It has three main types: alveolar, pleomorphic and embryonal, which is the most common subtype of RMS in children [1, 2]. RMS most commonly occurs in head and neck, and rarely in genitourinary tract [3]. It constitutes 3% of all soft tissue sarcomas, moreover it is considered the most common soft tissue tumor in children [1]. These tumors are mainly encountered in children [4], and rarely in adults, as it accounts for just 2–5% of all adult sarcoma cases [3, 5–10]. Several reports found that the pleomorphic subtype tends to be the most common in adults [9, 11, 12].

Due to the rarity of RMS in adults, early diagnosis can be challenging for clinicians, and that might reduce the likelihood of patients receiving a more effective therapeutic approach. We hereby present a case of RMS with multiple metastases in a post-menopausal woman as well as her management and follow-up.

CASE PRESENTATION

A 60-year-old female presented to rheumatology clinic with chief complaint of progressive lower-limb weakness accompanied by painful muscle spasms that sometimes wake her up at night. Two months after the beginning of her weakness, she became unable to walk. Her medical history is clear of any significant complaint, but her surgical history includes hysterectomy for a uterine mass diagnosed two years previous to the

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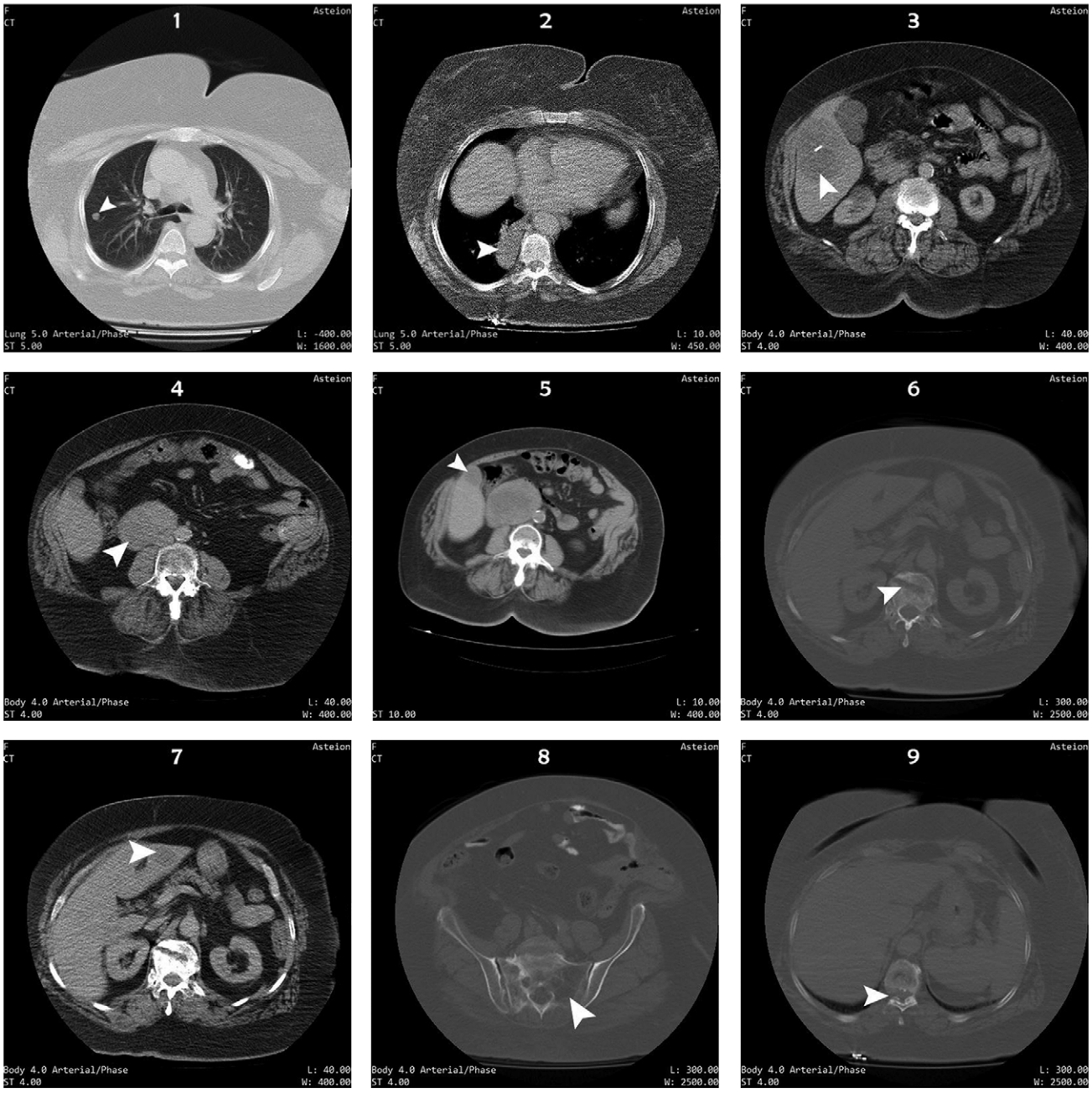

Figure 1: Computed tomography imaging at diagnosis.

current complaint. Pathology report tells it was leiomyoma with a high tendency to turn malignant.

Physical examination revealed isolated generalized weakness of all right lower-limb muscles with absent inflammatory signs around the joints. The rest of the physical examination and lab tests were all within normal limits.

Magnetic resonance imaging (MRI) of the lumbar spine showed a mass positioned anteriorly to the inferior vena cava with a space-occupying lesion in the right lobe of the liver. Computerized tomography scan (CT) showed nodules in the pulmonary tissue; the largest nodule measured 12 mm in diameter (Fig. 1, Pic. 1). It also revealed enlarged lymph nodes in front of the carina, a retroperitoneal mass, a 6-cm mass in the right posterior mediastinal space, a 6-cm soft tissue mass in the posterior region of the liver as well as a focus with suspicion of a neoplasm in the liver (Fig. 1, Pic. nos. 2–5, 7). Moreover, lytic bone lesions were found in the vertebrae and the sacral bone (Fig. 1, Pic. nos. 6, 8, 9).

The ultrasound-guided liver biopsy showed a poorly differentiated neoplasm composed of pleomorphic spindle cells consistent with a sarcoma. Immunostaining showed positive Vimentin, Desmin and Actin with negative Epithelial Membrane Antigen (EMA), S100 and HEP-PAR (Fig. 2), which led to the diagnosis of RMS that had originated from the resected uterus.

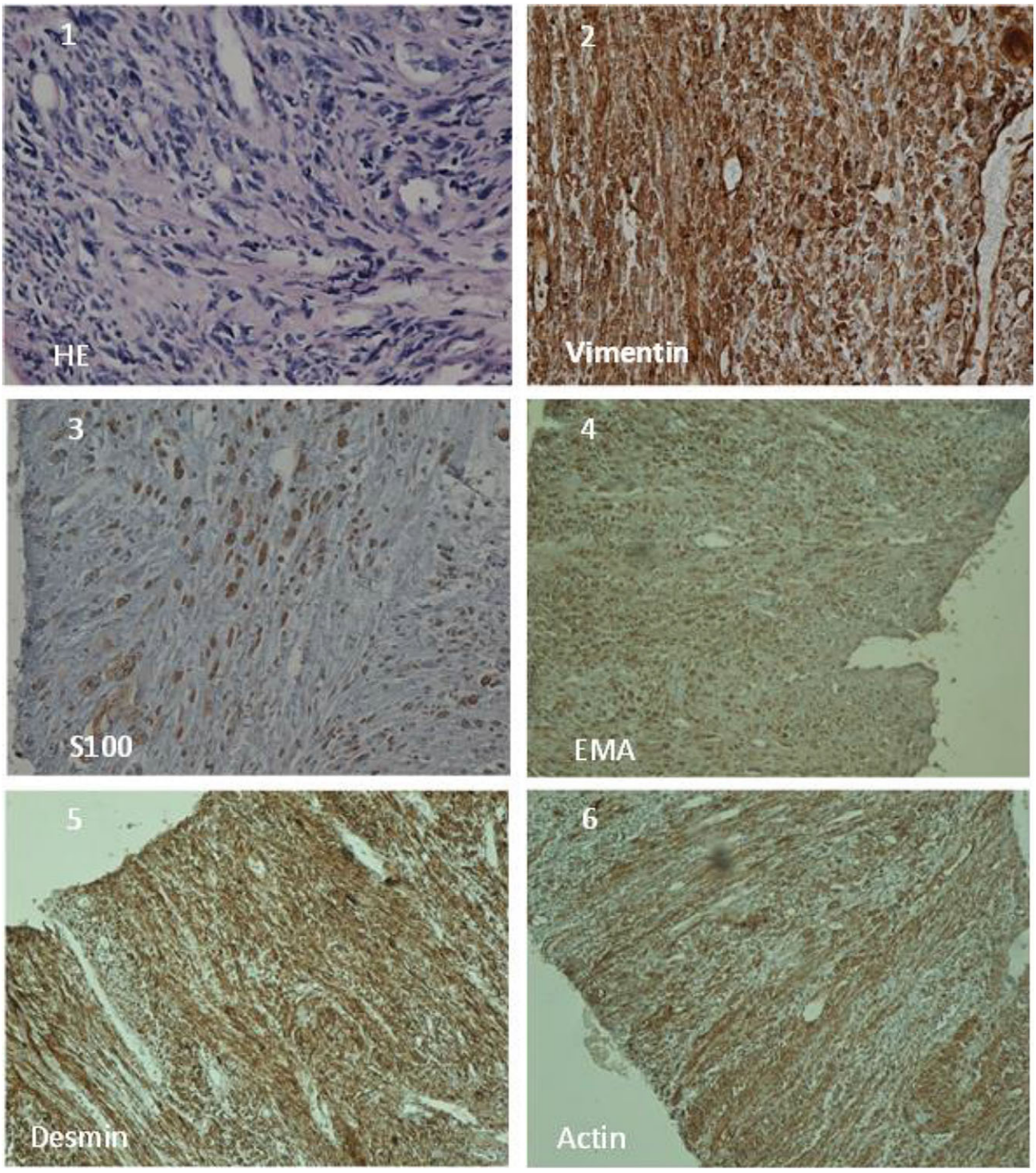

Figure 2: Immunostaining for ultrasound-guided liver biopsy.

The initial management plan consisted of six cycles of Doxorubicin 60 mg/m^2 and Cyclophosphamide 600 mg/m^2. However, no response to these drugs was detected. The patient then received Cisplatin 75 mg/m^2 and Taxol 200 mg/m^2 for three cycles, and the clinical response was not sufficient as well. Eventually, the patient was approached with a protocol of Gemcitabine 1000 mg/m^2 and Carboplatin AUC 5 and marked improvement was observed after 18 cycles.

The patient has been followed up every 2–3 months with CT imaging and essential lab tests.

At the last cycle of chemotherapy, the patient showed stability in the dimensions of the masses, along with significant

Physical aspects	Before Treatment	After Treatment
How much were you able to accomplish daily activity?	Sometimes	Usually
How often were you able to go out without help?	Not at all	Often
Were you able to take a half hour walk?	Not at all	Sometimes
Did you feel any difficulty walking even a short distance?	Very much	Often
Were you able to walk up and down the stairs?	Sometimes	Usually
Were you able to talk a bath by yourself?	Not at all	Sometimes
Did you lose any weight?	Yes	No, I have gained
Did you sleep well?	Sometimes	Usually
Did you experience any vomiting?	Very often	None
Emotional aspects		
How well do you feel?	Sometimes	Usually
Do you have a good appetite?	Sometimes	Usually
Did you enjoy your meal?	Sometimes	Usually
Were you able to devote yourself?	Often	Usually
How well were you able to deal with your stress?	Often	Usually
Did you feel you could not concentrate on something?	Often	Often
Did you worry about your disease?	Yes, very much	Yes, sometimes
Social aspects		
Did you get any encouragement?	Very much	Very much
Did you have any problem dealing with people outside your family?	No problem	No problem
Do you think your family was troubled by your getting treatment?	Sometimes	Sometimes
Do you worry about your social life in the future?	Yes	Not at all
How much do you worry about your financial problem caused by your treatment?	Very much	Often
Please circle the number of the face that best fits your feelings in the past few days?	1	4

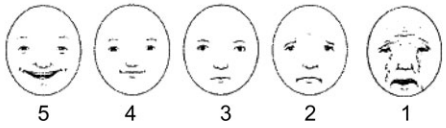

Figure 3: Quality of life questionnaire for cancer patients treated with anti-cancer drugs.

improvement in her quality of life (Fig. 3) [13], but she still suffers from slight numbness in her fingers and low back pain. Therefore, her doctor suggested stopping chemotherapy and monitoring every 3 months.

Three months after the last cycle of chemotherapy, the patient had a CT scan that, in comparison with previous imaging, showed absence of carinal lymph nodes in addition to reduction in diameter of the mediastinal mass by 1 cm and of the retroperitoneal mass by 0.6 cm, however, our management had no effect on the size of liver, bone and lung metastases (Fig. 4).

DISCUSSION

In this article, we reported a case of RMS that first presented with muscle weakness due to metastases, however, the usual main symptom of uterine RMS is vaginal bleeding [9]. Due to its rarity, the diagnosis of adult RMS is usually delayed and its prognosis remains unknown [3], nevertheless, chemotherapy seems to have significant effect on the prognosis and the quality of life even in widely metastatic RMS such as our reported case.

Adult RMS arising from the uterus are very rare, and very few cases of genital tract RMS have been reported in the English medical literature [14]. Furthermore, a retrospective study about RMS of gynecologic origin concluded that RMS of the genital tract is extremely rare in adults [15]. On the other hand, in a previous study of 25 adults, Khosla *et al.* [3] found that only three patients presented with distant metastases; two of them only had lung metastasis, and one had both lung and bone metastases. The most common site of RMS metastasis is the lungs, like other soft tissue sarcomas [16, 17]. However, our patient has metastases to the lungs, mediastinum, liver and bone which, to our knowledge, have not been reported in any previous article so far.

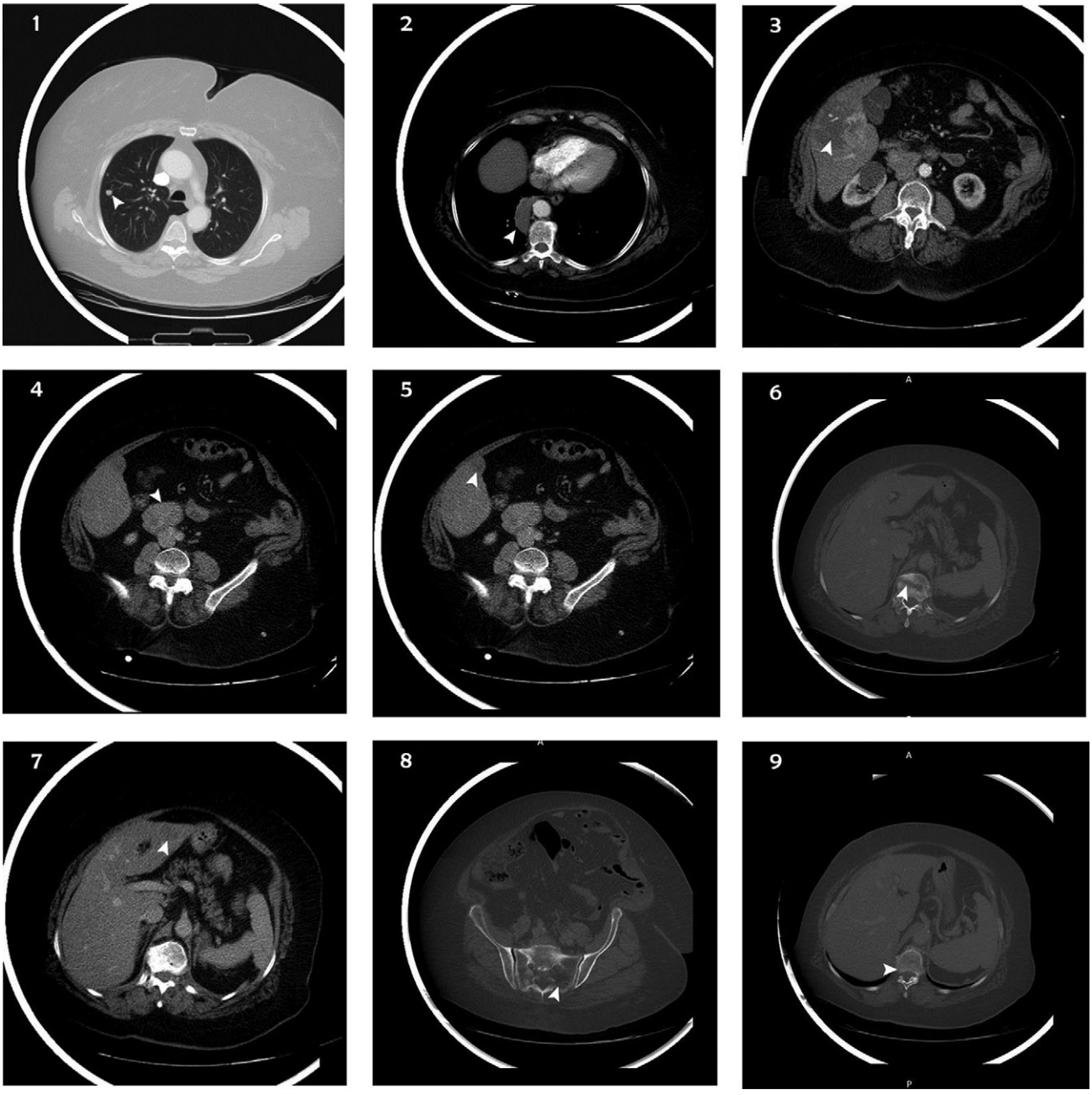

Figure 4: Computed tomography imaging 3 months after the last cycle of chemotherapy

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CONFLICT OF INTEREST STATEMENT

None to be declared.

CONSENT

The patient signed an informed consent form to publish this case report and all related figures.

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