CASE REPORT

A 46-year-old man who suffered from chest pain and dyspnea was admitted to the emergency center. The initial simple chest x-ray evidenced pleural effusions in both lungs. On physical examination, any expiratory wheezing sounds weren’t detected. However, a fraction murmur was detected, coupled with right jugular vein engorgement. His ECG was unremarkable. A chest computed tomography (CT) exam showed an ovoid mass in the posterior wall of the left atrium (LA). The echocardiogram also showed a large immobile ovoid mass (11×6 cm²) in the pericardial space, which was attached to the posterior wall of the left atrium. Emergency pericardiostomy with closure thoracostomy was performed. Seven days later, a thoracotomy was performed for reduction and diagnosis of the cardiac mass. The pathological diagnosis was extraskeletal mesenchymal chondrosarcoma of the heart.. Postoperative chemotherapy was performed for the huge remaining mass with a combined regimen of etoposide, ifosfamide and cisplatin. After 6 cycles, the patient showed a partial response without symptoms. Although cardiac mesenchymal chondrosarcoma has been reported to be chemotherapy-resistant with a short survival duration, chemotherapy may prove to be an effective treatment modality. (Cancer Res Treat. 2007;39:131-133)

Key Words: Mesenchymal chondrosarcoma, Extraskeletal, Heart
Fig. 1. Chest computed tomography (A) and echocardiogram (B) revealed a large ovoid immobile mass (11×6 cm²) in the pericardial space, which was attached to the posterior wall of the LA, and this was accompanied by a large quantity of pericardial effusion. Chemotherapy for six cycles was followed by chest computed topography (C) and an echocardiogram (D). The size of the immobile mass attached to the posterior wall of the LA was reduced (from 4.4×3.8 cm² to 1.8×2.5 cm²).

Fig. 2. Pathologic findings of the extraskeletal mesenchymal chondrosarcoma. (A) H&E stain (B) S-100 (×400) and (C) CD99 stain (×400).

DISCUSSION

Extraskeletal chondrosarcoma is a rare neoplasm, and it represents approximately 2% of all soft tissue sarcomas (1). The normal age of onset is between 15 and 35 years of age, and the predominant sites of involvement include the lower limbs, head, the cranial and spinal dura matter, and the occipital portion of the neck (3). However, extraskeletal mesenchymal chondrosarcoma can also originate in the heart, although this is extremely rare.

The principal treatment for this condition is surgery. However, complete resection is usually difficult, as in our case, due to the hazardous mass in the left LA that had invaded the Hemato-oncology department for further management.
Fig. 3. PET CT showed no uptake in the cardiac mass lesion and no evidence of distant metastasis.

pericardial space. The prognosis is also generally quite poor, as cardiac chondrosarcoma is characterized by early local recurrence and metastasis. The mean survival duration is normally measured in weeks or months (4,5). Chemotherapy and radiotherapy are indicated for those lesions that are unsuitable for radical surgery, but a good result of chemotherapy and radiotherapy has not been reported (1,2).

In this particular case, the patient showed a relatively good response to combination chemotherapy. Further, the clinically combined symptoms, most notably the dyspnea and chest tightness, were resolved following treatment.

No evidence of distant metastasis was detected for distant metastasis, according to the PET-CT image evaluation. To the best of our knowledge, this is the first case of chemotherapy-sensitive extraskeletal mesenchymal chondrosarcoma of the heart. Although cardiac mesenchymal chondrosarcoma had been reported to be resistant to chemotherapy with a short survival duration, chemotherapy may prove to be an effective treatment modality.

REFERENCES