Case Report

Pancreatic metastasis of mesenchymal chondrosarcoma

Cristina P. Camacho*, Emilia C. Fraga, Ana Almeida, Maria J. Amaral, Mario Sergio

INTRODUCTION

Mesenchymal chondrosarcoma (MC) is an aggressive, rare tumor with chondrogenic differentiation, first described in 1959 by Lightenstein and Bernstein. The peak incidence is in the second and third decade of life, and equally, affects men and women. It counts less than 3% of primary chondrosarcomas, and about a third of these tumors develop extraskeletal sites such as the meninges, and soft tissue. We present a case of a 53-year-old female, that was diagnosed with mesenchymal chondrosarcoma in the left thigh and submitted to surgical excision. The patient's case was evaluated by a multidisciplinary team, and it was decided to maintain vigilance. In the 5 years, follow-up presented several pulmonary metastases that were submitted to pulmonary resections. Two years later, during imaging control, an abdominal computed tomography (CT) scan was performed and revealed a pancreatic mass of 3 centimeters, located in the pancreatic tail. The patient was submitted to an explorative laparoscopy and a distal pancreatectomy was performed. The biopsy gave the definitive result of the metastasis of mesenchymal chondrosarcoma.

Keywords: Mesenchymal chondrosarcoma, Pancreas, Metastasis

INTRODUCTION

Mesenchymal chondrosarcoma is an aggressive tumor with chondrogenic differentiation that typically develops in skeletal sites, such as craniofacial bones, ribs, ilium, femur, and the vertebrae. It counts less than 3% of primary chondrosarcomas, and about a third of these tumors develop extraskeletal sites such as the meninges, and soft tissue. We present a case of a 53-year-old female, that was diagnosed with mesenchymal chondrosarcoma in the left thigh and submitted to surgical excision. The patient's case was evaluated by a multidisciplinary team, and it was decided to maintain vigilance. In the 5 years, follow-up presented several pulmonary metastases that were submitted to pulmonary resections. Two years later, during imaging control, an abdominal computed tomography (CT) scan was performed and revealed a pancreatic mass of 3 centimeters, located in the pancreatic tail. The patient was submitted to an explorative laparoscopy and a distal pancreatectomy was performed. The biopsy gave the definitive result of the metastasis of mesenchymal chondrosarcoma.

Keywords: Mesenchymal chondrosarcoma, Pancreas, Metastasis
At 5 years follow-up, imaging showed 3 lung metastases, with 0.2, 0.3, and 0.4 cm each. The patient was evaluated in Cardiothoracic Surgery, to remove these lung metastases.

Despite these treatments, abdominal computed tomography (CT) imaging, at 7-year follow-up, demonstrated a pancreatic mass of 3 centimeters, and the patient was referenced to our service. Laparoscopic distal pancreatectomy with spleen preservation was performed. The histopathology of the excised specimen proved to be the one of metastatic lesions of MC. The pancreatic resection margin was not involved by tumor, and metastases were not identified in peripancreatic lymph nodes. Microscopically, the tumor was composed of sheets of small, round to oval cells with stippled chromatin, scant cytoplasm, and “hemangiopericytoma-like” vasculature surrounding scattered islands of well-differentiated hyaline cartilage.

The post interventional course was prolonged due to pancreatic fistulae, that we managed conservatively. The patient left the hospital after 15 days of treatment.

In 2019, other lesions of metastatic origin in both lungs were found and the patient was submitted to thoracotomy and 3 lesions were excised. The patient remains asymptomatic and to date with no signs of apparent recurrence.

**DISCUSSION**

MC is a rare primitive appearing tumor with cartilaginous differentiation that predominantly develops in skeletal sites. Despite these tumors tend to affect patients in the second to third decade of life and 10-year overall survival rates are lower (27 to 44%), our case showed another pique of incidence and longer survival rate. This tumor entity is rare and randomized clinical trials examining the effect of chemotherapy in metastatic and non-metastatic mesenchymal chondrosarcoma are lacking. Generally, the therapy consists of radical surgery and probably chemotherapy. However, a clear treatment strategy has not been defined.

Despite the metastatic disease, these patients have a possible survival for years, so surgical treatment is recommended. The prognosis is poor because new metastasis may occur and the patient already was submitted to a lot of surgeries. In the literature, metastases are an independent predictor of death in a 44% 10-year-overall survival rate, in extraskeletal MC. Some cases reports were published concerning abdominal metastasis from Mesenchymal chondrosarcoma in the kidney, uterus, and a unique case in the spleen. Relatively to the pancreas, 4% of the pancreatic masses are secondary tumors, and metastases of MC is relatively rare.

**CONCLUSION**

When detecting a mass of the pancreas in patients with a medical history of MC, a metastasis of this tumor entity should be taken into consideration. Further development of novel agents for treatment is essential for improving the prognosis of this type of tumor.

**Funding: No funding sources**  
**Conflict of interest: None declared**  
**Ethical approval: Not required**

**REFERENCES**

1. Cohen J, Solomon DS, Horvai A, Kakar S. Pancreatic involvement by mesenchymal chondrosarcoma harboring the HEY1-NCOA2 gene fusion. Human Pathol. 2016;58:340.
2. Paasch C, Santo G, Renate K, Strik W. Mesenchymal chondrosarcoma metastasize to the pancreas. BMJ. 2018;11(1):e2263469.
3. Fotiadis C, Charalambopoulos A, Chatzikokolis S, Zografos GC, Genetzakis M, Tringidou R. Extraskeletal myxoid chondrosarcoma metastatic to the pancreas: A case report. World J Gastroenterol. 2005;11(14):2203-05.
4. Tsukamoto S, Honoki K, Kido A, Fujii H, Enomoto Y, Ohbayashi C et al. Chemotherapy Improved Prognosis of Mesenchymal Chondrosarcoma with Rare Metastasis to the Pancreas. Case Reports in Oncological Medicine. 2014;2014:249757.
5. Fukuda A, de Castro Oliveira DL, Joaquim FA, Amstalden EMI, de Souza Queiroz L, Reis F. Vertebral body chondrosarcoma with metastasis to the scalp. BJR Case Rep. 2019;5:20180037.
6. Scheiderman BA, Kliethermes SA. Survival in mesenchymal chondrosarcoma varies based on age and tumor location: a survival analysis of the SEER database. Clin Orthop Relat Res. 2017;475:799-805.

**Cite this article as:** Camacho CP, Fraga EC, Almeida A, Amaral MJ, Sergio M. Pancreatic metastasis of mesenchymal chondrosarcoma. Int Surg J 2020;7:4164-5.