

# Metastatic Gastric Adenocarcinoma: Diagnosis through Pericardioscopy

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## Case Report

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## Abstract

It is estimated that the pericardium is affected by 10 to 21% of patients with neoplasms. Malignant pericardial effusion is a complication that may be related to neoplastic disease in which, if not diagnosed and conducted rapidly, it may be life threatening requiring diagnosis. A 52-year-old female patient who, after having undergone pericardioscopy with pericardial biopsies to investigate pericardial effusion, obtained metastatic gastric adenocarcinoma, and gastric neoplasm with digestive endoscopy was confirmed.

**Keywords:** Gastric cancer; Pericarditis carcinomatosa; Cardiac tamponade; Pericardioscopy; Adenocarcinoma

## Introduction

Pericardial effusion may result from conditions such as hypothyroidism, viral infections, and tuberculosis and heart post-procedure complications, cancers, among others. Often the pericardial effusion in patients diagnosed with cancer are identified as incidental findings on imaging studies, however it can cause symptoms to develop cardiac tamponade [1].

It is estimated that the pericardium is affected by 10 to 21% of patients with neoplasms [1]. Considering advanced gastric cancer, only 4.3% to 7.7% of cases have pericardial affection, lowering the chances of affection [2]. Only eight cases of cardiac tamponade

related to gastric cancer metastatic were reported in PubMed between 1982 and 2010 [3].

The etiological diagnosis of lesions did through the pericardial cytology and microbiological studies have its limitations, being the biopsy the best investigative method [4]. A pericardioscopy watched video provides a better view of the biopsy site, increasing the diagnostic yield [4].

## Case Report

MJP, female, 52 years old, sought medical attention with complaints of edema in the lower limbs for about 45 days followed by progressive dyspnea in the previous 10 days. On an initial evaluation, a chest tomography showed massive pleural effusion on the right and pericardial

effusion. A transthoracic echocardiogram showed signs of restriction. The patient was submitted to pleural drainage with pig tail drainage having a removal of approximately 1300 ml of citrus yellow secretion in a biochemical analysis compatible with chylous effusion (Triglycerides 141 mg / dl).

Subjected to pericardial drainage and biopsy in character of emergency, having drainage of 550 ml of citrus yellow secretion. Anatomopathological analysis of the pericardium revealed mild fibrosis and mild perivascular lymphohistiocytic inflammatory infiltrated in cellular fluidity and could not exclude neoplastic affection.

She presented a good postoperative evolution, being discharged on the 33rd postoperative day with outpatient return for thoracic surgery. She underwent chest X-ray control, showing then a loculated effusion.

Since the patient still did not have a defined diagnosis, a pericardioscopy for biopsy and pulmonary decortication watched video (VATS) was indicated. A subxyphoid incision was made with dissection of the plans until the pericardium was thickened and thickened. After the pericardioscopy, a drainage of about 250 ml of citrus yellow secretion and identified firm adhesions took place. Pericardial biopsies were performed guided by pericardioscopy followed by drainage. Following that, a decortication by VATS.

The patient progressed accordingly with anterior and posterior pleural drainage and mediastinal drainage with low flow. The anatomopathological result confirmed metastatic adenocarcinoma of probable primary site in gastrointestinal tract, with markers, infiltrating pericardium. The patient was referred to an oncology treatment institution, where gastric neoplasm was diagnosed as primary tumor through upper digestive endoscopy.

## Discussion

In a review of 91 patients submitted to pericardioscopy in our institution along 9 years, our diagnosis was: non-specific inflammation in 50 (54.94%) cases, neoplastic diseases in 22 (24.17%) cases, tuberculosis In 11 (12.08%) cases, bacterial inflammatory process in 3 (3,29%) cases, chylopericardium in 2 (2,19%) cases, fungal infections in 2 (2,19%) cases and viral infection in 1 (1.09%) if [5].

Pour malignant pericardial is a complication that can be related to neoplastic disease on which, if not diagnosed and quickly conducted it can be potentially deadly [6]. The breast carcinoma, melanoma and lymphoma tumors are the most related to pericardial metastases. When affected with cardiac tamponade symptoms have major respiratory discomfort associated with chest pain, cough, among others [1].

The edema of the lower limbs and progressive dyspnea were the reasons for hospitalization of our patient. She presented changes in the gastrointestinal tract as initial symptoms.

In the diagnostic evaluation, malignant pericardial effusions had positive cytology in 50% to 80% of cases [7,8]. In order to identify the cause of the pericardial affection, a biopsy procedure was used.

In the cardiac tamponade approach, a subxyphoid pericardial drainage, a percutaneous drainage, a radiotherapy, a systemic or local chemotherapy, and a pericardial window were used [3]. The use of intrapericardial sclerosing material is used in an attempt to prevent the recurrence of stroke, being effective when compared to isolated percutaneous drainage, except for the subxyphoid drainage, which verified that a surgery would be enough [3].

Due to the fast and safe subxyphoid drainage, a percutaneous drainage is reserved for patients at risk of life with hemodynamic instability [9].

In this specific case, the patient underwent a subxyphoid drainage, and no sclerosing material was used as a complement to prevent relapse. She presented satisfactory evolution without relapse of the effusion.

In this case, the use of pericardioscopy provided biopsies with satisfactory samples for diagnosis.

A study after considering 114 patients with cancer diagnosis and pericardial effusion cytological showed sensitivity on the studies of the pericardial fluid, the pericardial pathological exams and the pericardioscopy pericardial biopsy were 75%, 65% and 97% respectively [10].

In a series of 17 cases of cardiac tamponade related to gastric cancer, described by Kobayashi, it was found that patients who had developed cardiac tamponade before completing 2 years of the diagnosis of gastric neoplasia

presented an average survival of 2.9 months and that the use of paclitaxel-based chemotherapy has been positive in the treatment of cardiac tamponade caused by carcinomatous pericarditis related to gastric cancer [11,12].

## Conclusion

Pericardioscopy is an important option in the armamentarium for the diagnosis of pericardial effusion, allowing a better evaluation of the pericardium on direct vision and obtaining a sample for histopathological diagnosis, being able to elucidate rare cases such as metastatic gastric cancer.

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