

# Case report: cervical epidermoid carcinoma with pericardial effusion as the first manifestation of distant metastatic disease

## Abstract

Cervical cancer occupies the seventh place in the world ranking, being the third in incidence and fourth in mortality in the female population. Metastatic disease can develop in 15 to 61% of women.

**Case report:** A 41-year-old female patient with cervical squamous cell carcinoma, clinical stage IIB, treated with concomitant radiotherapy and chemotherapy supplemented with brachytherapy. It develops with progressive dyspnea during outpatient oncologic control and during clinical investigation, observed without tamponade pericardial effusion as an initial manifestation of mediastinal metastasis by cervical cancer, although there are no signs of locoregional disease. The videolaparoscopic pericardial window was submitted to drainage of pericardial effusion without complications.

**Conclusion:** The aim of this study is to highlight the importance of suggesting a possible diagnostic suspicion of distant metastasis in cervical cancer even in the absence of locoregional disease.

**Keywords:** metastatic tumor, squamous cell carcinoma, cervix, pericardial effusion

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Ketheryn Adna Souza de Almeida,<sup>1</sup> Fernanda Alonso Rodrigues Fleming,<sup>1</sup> Vando de Souza Júnior,<sup>2</sup> Felipe Lins Trigueiro Mendes,<sup>3</sup> Adriano Eduardo Costa de Figueiredo,<sup>3</sup> Gilberto Augusto Gonçalves Júnior<sup>4</sup>

<sup>1</sup>Resident Doctor of Cancer Surgery at INCA, Rio de Janeiro, Brazil

<sup>2</sup>Resident Doctor of Cardiology at UNIFESP, São Paulo, Brazil

<sup>3</sup>Resident Doctor of Thoracic Surgery at INCA, Rio de Janeiro, Brazil

<sup>4</sup>Assistant Doctor, Oncology Gynecology Service, INCA, Rio de Janeiro, Brazil

**Correspondence:** Ketheryn Adna Souza de Almeida, Resident Doctor of Cancer Surgery at INCA, INCA – Rio de Janeiro, Brazil, Tel +55 (47)999620717, Email ketherynsouz@gmail.com

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**Abbreviations:** CPB, squamous cell carcinoma; INCA, National cancer institute; CT, chest tomography

## Introduction

Cervical cancer occupies the third place in the world ranking, being the third in incidence and the fourth in mortality in the female population (except non-melanoma skin tumor).<sup>1</sup> Metastatic disease can develop in 15 to 61% of women, usually within the first two years of treatment completion, most commonly with regional location<sup>2</sup>. The most common histological type is squamous cell carcinoma (CPB), representing about 70% of cases<sup>3</sup>. In cases where there is a risk of hemodynamic repercussion there are no symptoms, occasional findings are common during an assessment of other cardiopulmonary diseases.<sup>2</sup> Considering the importance of characterizing this entity, the present case of alert for suspected diagnosis of distant metastasis of cervical cancer, since the symptoms may be nonspecific, is the same in patients without local metastatic disease.

## Method

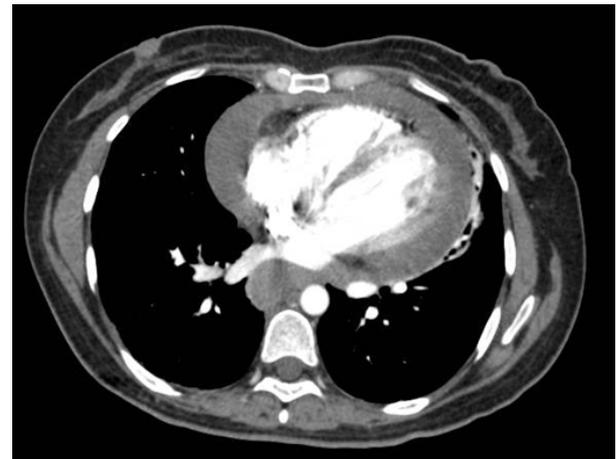
As information contained in this study, we performed review and readiness analyzes of patients followed at the National Cancer Institute (INCA) and literature review.

## Case report

A 41-year-old female was referred to the INCA Oncogynecology Service for cervical CPB, diagnosed by cervical biopsy after two colposcopic examinations with atypical squamous cells of undetermined significance. On admission, physical examination compatible with clinical stage IIB (5cm cervical lesion without invasion of the vagina, affecting parametric parameters). Deliberate treatment with concomitant radiotherapy with chemotherapy and brachytherapy. Receive radical external radiotherapy treatment over a basin, total dose of 5040 CGy in 30 fractions, from 21/06/2018 to 08/08/2018, concomitant with chemotherapy (Cisplatin weekly in 5 cycles ending 01/08/18). Good tolerance to treatment associated with tumor regression in gynecological evaluation - 28/08/18. Referred to intracavitary brachytherapy with 3 inserts, 800 cgy each, until 18/09/18.

On 02/01/19 seeks immediate care due to moderate availability and dry for 1 week. Note the increase in cardiac area on chest radiography (Figure 1), differing from the examination performed 3 months ago (Figure 2). Chest tomography (CT) shows moderate pericardial effusion, loss of pleural effusion, lower tracheal and paraophageal lymph node enlargement, as well as sparse nodules in the lungs, larger in the posterior basal segment of the right lower lobe of 3,9 cm (Figure 3).

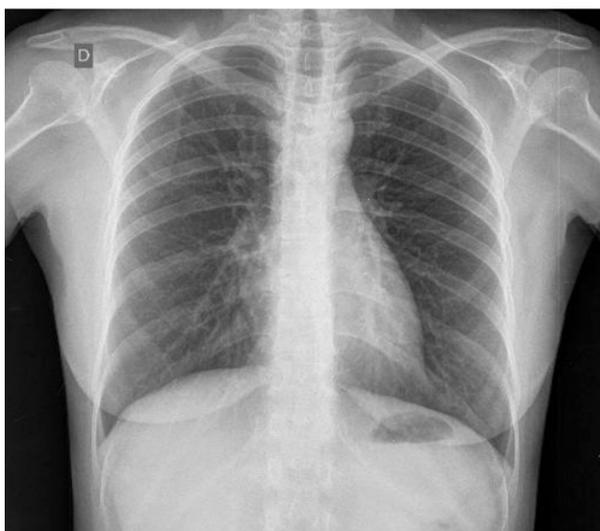
Submitted to the pericardial window by thoracoscopy by the Thoracic Surgery Service on 04/01/19: a moderate amount of hematic pericardial fluid was identified, and material was sent for analysis without malignancy. She had a good postoperative evolution, but maintained mild dyspnea on exertion. On 18/02/19, she underwent an anterior mediastinal mass biopsy by interventional radiology, confirming metastatic squamous cell carcinoma. She started palliative chemotherapy with Carboplatin + Paclitaxel, good tolerance to treatment until the 1st day of the 4th cycle performed on 05/02/19. On May 7, 2019, she sought emergency care due to diplopia, loss of left visual acuity, dizziness, and a fall in her general condition four days ago. Cranial tomography showed a hypodense lesion with dense areas of right thalamus permeation, ipsilateral cerebral peduncle extending to the midbrain, with mass effect and compression of the third ventricle. During hospitalization, the patient progressed with progressive clinical worsening, unable to perform palliative radiotherapy, continued palliative care with a multidisciplinary team, and died on May 24, 2019.



**Figure 3** CT angiography showing moderate pericardial effusion with leaflet thickening without pleural effusion.



**Figure 1** Chest X-ray in January / 2019 with cardiomegaly.



**Figure 2** Normal chest radiograph in November / 2018.

## Discussion

Cervical cancer is the third most prevalent cancer and fourth cause of cancer death in women in Brazil, according to INCA estimates, without considering non-melanoma skin tumors. It is expected for the biennium (2018-2019) 16,370 new cases with an estimated risk of 15.43 cases per 100,000 women. In stages III and IVA the overall 5-year survival (SG) is 40% and 15%, respectively. Regarding relapse, in locally advanced tumors, around 15-60% may develop recurrent disease in the first two years after primary treatment.<sup>2-4</sup> This report confirms the poor prognosis and poor disease-free survival in patients with locally advanced disease. For locally advanced uterine cervical tumors, the treatment of choice is the combined scheme of external radiotherapy, chemotherapy followed by brachytherapy.<sup>5</sup> Thus, it is clear that the patient was treated according to treatment protocols, showing complete local response. Better control of locoregional disease has been increasingly seen in patients with distant metastatic disease due to the use of intensive pelvic radiotherapy and the use of more modern and available imaging as a means of cancer surveillance.<sup>6</sup>

Cervical cancer metastasis primarily affects para-cervical lymphatic vessels, progressing to para-aortic lymphatic network, i.e. locoregional recurrence, and later progressing to distant lesion, mainly affecting the lungs, liver, peritoneum, and bones, rarely with involvement. Cardiac.<sup>7</sup> Among the literature reviews, favorable prognostic factors are observed for metastatic disease that can be cured, surgical or not, central pelvic recurrence, disease-free interval of more than six months, and recurrence with a lesion smaller than 3cm in diameter.<sup>8</sup>

In the reported case, an atypical complaint was noted in the inaugural setting of metastatic disease, dyspnea, and cough, following the pattern of nonspecific symptoms in distant metastases. Usually patients have gynecological symptoms when there is locoregional metastatic disease such as metrorrhagia, dyspareunia and pelvic pain.<sup>6</sup> Imaging such as CT or chest X-ray is not routinely recommended, except in cases with relevant complaints.<sup>9</sup> As in the case described, the diagnosis of non-tamponable pericardial effusion was suspected by enlargement of the cardiac area in a patient reporting dyspnea after previously normal examination 3 months ago. Dyspnea is commonly

the main complaint isolated in pericardial effusion, and there may be tachycardia or paradoxical pulse.<sup>10</sup> Malignancy-related pericardial effusions may indicate terminal event in patients with advanced disease, but other etiologies in oncological patients such as infectious idiopathic pericarditis or related to adverse effects by radiotherapy or chemotherapy cannot be ruled out.<sup>11,12</sup> Given the findings, the patient was referred for emergency surgical procedure with drainage of about 150ml of hematic pericardial fluid, which despite presenting absence of malignancy, was extremely important for symptomatic improvement and performance status enabling the beginning of palliative chemotherapy.

Despite advances in the diagnosis and treatment of metastatic cervical cancer, over 90% of patients with distant recurrence will die from the disease within five years<sup>10</sup>. We can exemplify this prognosis through the patient in question who died less than 6 months after confirmation of metastatic disease.

## Conclusion

Based on the foregoing, it can be concluded that due to the improvement of intensive pelvic radiotherapy and imaging exams during follow-up, the likelihood of early diagnosis of distant metastases from nonspecific symptoms is increased cervical cancer. Thus, it will enable treatment with palliative chemotherapy, which aims to control symptoms, quality of life and, when possible, prolong survival.

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## Conflicts of interest

The authors declare there are no conflicts of interest.

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