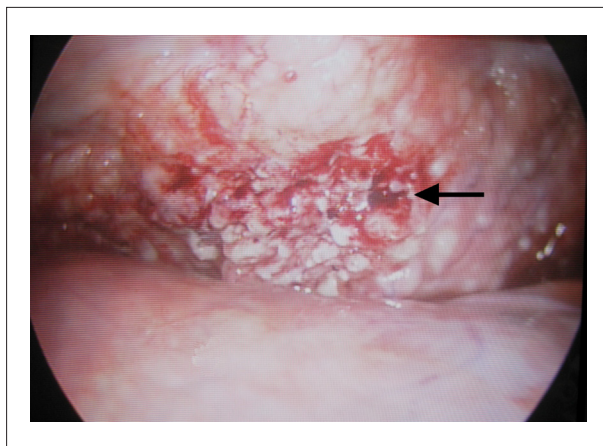


**Figures 1A and 1B** - Computed tomography of the thorax depicting (A): Bulky anterior mediastinal mass measuring 13 x 10 cm, and (B): Large pericardial effusion.



**Figure 2** - Video-assisted pericardioscopic image showing extensive neoplastic infiltration of the posterior portion of the pericardium. Arrow indicates selected biopsy site.

pericardial windows with 71 subxiphoid approaches. Procedural morbidity was low overall, but was significantly higher in the pericardial window group and related mainly to complications associated with the accessing of the pleural space (particularly pneumothoraces). The higher morbidity

seemed to reflect the greater complexity of the procedure. Recurrence was observed in 1 patient after thoracoscopy (8%) and in 5 patients after the subxiphoid approach (10%), and anesthesia time was significantly longer at thoracoscopy.

The video-assisted pericardioscopy offers the advantages of the traditional subxiphoid approach: 1) the patient remains in the supine position and access is readily available for pericardiocentesis if instability occurs after induction, 2) it can be performed under local anesthesia, 3) it does not need single-lung ventilation, 4) it does not penetrate the pleural space and 5) the abdominal incision confers no risk of prolonged neuralgia that can occur after thoracoscopy<sup>2,3,8</sup>. Additionally, it permits direct visualization of the pericardial surface and guided biopsies of suspicious areas or intra-pericardial deposits. Accordingly, it allows access to parts of the pericardium that would not be reached by digital palpation, direct visualization through the subxiphoid window or thoracoscopy<sup>3</sup>.

In this case, the objective was a surgical procedure aimed to resolve the risk of cardiac tamponade and provide etiologic diagnostic. The echocardiogram revealed signs of right atrial and ventricular compression; for that reason we decided to keep the patient in the supine position and the surgical approach was the video-assisted pericardioscopy. Another approach would be the traditional subxiphoid biopsy; however, the tumor would not be reached because it was at the top of the pericardium at the emergence of the aorta.

Porte et al<sup>9</sup> evaluated 114 patients with pericardial effusions and history of cancer. In 22.7%, pericardioscopy improved the results of the pericardial fluid cytology and surgical pericardial biopsy. The sensitivities of the cytological studies of the pericardial fluid, pathological examinations of pericardial biopsy and the pericardioscopic pericardial biopsy were 75%, 65% and 97%, respectively. Perioperative mortality was 3.5% and post-operative morbidity was 6.1%.

We have analyzed 91 patients with indeterminate pericardial effusions that were submitted to video-assisted pericardioscopy during a 9-year period.<sup>(3)</sup> The diagnosis was established as follows: nonspecific inflammation in 50 (54.94%) cases, neoplastic disorders in 22 (24.17%) cases, tuberculosis in 11(12.08%) cases, bacterial inflammatory processes 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%) case. Video-assisted guided biopsies of the pericardium established the diagnosis in 36.26% of the cases, diagnosis through the fluid analysis was observed in 13.18% and association of both methods guaranteed 45.05% of the definitive diagnosis in the study. Overall morbidity was 4.3%, and the most common complication was arrhythmias due to intra-operative manipulation. There was 1 (1.09%) death in the perioperative period due to cardiac tamponade during the induction of anesthesia, despite immediate drainage of the effusion.

## Conclusion

Video-assisted pericardioscopy is a safe and efficient method to attain a definite diagnosis and satisfactory therapeutic results in cases of indeterminate pericardial effusions. Excellent visualization of the pericardial surface

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permits guided biopsies of suspicious areas. It also allows access to parts of the pericardium that would not be reached by the other available biopsy techniques.

### Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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### Study Association

This study is not associated with any post-graduation program.

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