

## Prevention of cardiac herniation and left artery descending obstruction in cases of extensive surgical pericardial window procedure

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**Abstract:** The thoracotomy approach for pericardial window surgery was shown to be more effective at preventing effusion recurrence and the need for repeat surgery. However, cardiac herniation remains a common complication after extensive pericardial excision. This technical note describes a simple and effective technique to prevent potential heart herniation through the pericardial window and at the same time to avoid potential obstruction of the left artery descending.

**Keywords:** Pericardial window; cardiac herniation; pericardial effusion

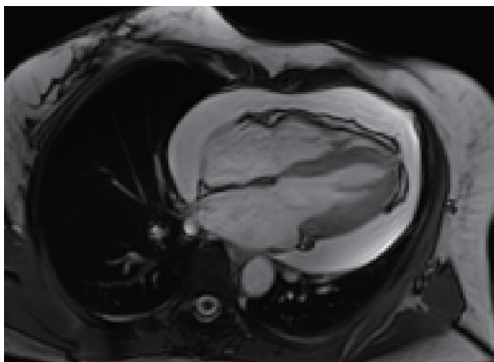
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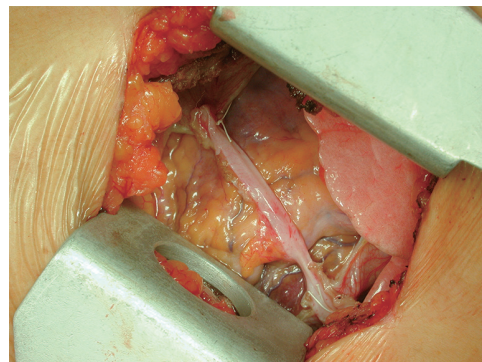
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The thoracotomy approach was shown to be an effective surgical access in terms of preventing effusion recurrence and the need for repeat surgery (1). However, cardiac herniation remains a potential complication after extensive pericardial excision (2,3). A 54-year old female with a symptomatic chronic pericardial effusion significantly increasing in size over months (*Figure 1*) with the background of anti-cyclic citrullinated peptide (anti-CCP) antibody positive rheumatoid arthritis underwent surgical

pericardial window procedure through left anterior mini-thoracotomy. A large area of anterolateral pericardium was excised creating a generous (13 cm × 6 cm) pericardial window with the view to achieving appropriate long-term drainage. In order to prevent potential heart herniation through the pericardial window an 8-mm wide pericardial stripe was attached to both edges of the window using two single 5-0 sutures (*Figure 2*). Not only can this simple surgical technique prevent cardiac herniation but also avoids



**Figure 1** Chronic pericardial effusion with the background of anti-cyclic citrullinated peptide (anti-CCP) antibody positive rheumatoid arthritis on the MRI-scan.



**Figure 2** An 8-mm wide pericardial stripe is attached to both edges of the window using two single 5-0 sutures preventing cardiac herniation on one side and obstruction of the left artery descending on the other side.

potential obstruction of the left artery descending that can occur when a simple suture connecting both pericardial edges is used instead. Postoperatively the patient did not show any complications and has been doing well for more than 1 year of follow-up.

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### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest

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to declare.

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