symptoms. Early diagnosis and intervention can avoid complications, migration, and/or death. If diagnosed after the injury, asymptomatic foreign bodies with no associated risks may be treated conservatively.⁵

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Reply to the Editor:

Thank you for your comments on our recent report¹ of thoracic imaging. The case you describe underscores the need for a complete history in these cases, as well as the need for use of imaging modalities sufficient to determine the location of thoracic foreign bodies to facilitate appropriate operative intervention, assuming that the patient is in stable condition.

Although we agree that chest radiography is helpful in the initial work up of an intrathoracic foreign body, the location of a foreign body lodged within the heart can remain ambiguous if this is the only imaging performed. Both the case you describe and our own case illustrate this point well. In our own case, the true position of the single intracardiac sewing needle among the 3 needles visualized on chest radiography was not clear until additional imaging modalities were used.¹ In your case, perhaps

the patient could have been spared the initial thoracotomy had additional imaging been performed preoperatively.

In the setting of an unreliable history, the quality of imaging becomes of paramount importance. Both this issue and the difficulty of the adequate localization of pins and needles in the heart have been described dating back almost 20 years.²

The relationship between inhaled, swallowed, and transthoracically introduced intrathoracic pins and needles and the heart is interesting. Because of the proximity of the bronchi and esophagus to the heart and the propensity of these small objects to migrate, we submit that cardiac injury should be considered any time an intrathoracic pin or needle is visualized within the mediastinum on chest radiography, regardless of the mode of entry. Indeed, there is at least one case reported of cardiac tamponade from the migration of a swallowed needle.³

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AN IDEA FOR CONSTRUCTION OF A NEW MODIFICATION OF THORACIC ENDOGRAFT FOR TREATMENT OF DELAYED PARAPLEGIA

To the Editor:

Delayed spinal cord ischemia after thoracic aortic aneurysm repair is an in-

frequent but devastating complication. According to previous results, paraplegia after endovascular treatment of thoracic aortic aneurysms occurs at some rate between 0% and 12%.¹ The mechanisms of spinal cord ischemia (SCI) in endovascular endografting are poorly documented, with a few mechanisms proposed.^{2,3} Regardless of the cause at the time of development, however, cerebrospinal drainage and mean arterial pressure manipulation are the only treatments currently available. A new and interesting treatment approach by Reilly and Chuter⁴ has led us to propose a novel endograft model to aid in the treatment of delayed paraplegia.

During thoracic endograft fabric creation, it is essential to plan a circle partial fenestration in the middle part of the graft. The diameter is estimated according to the previously performed experiments. That fenestration is then covered with patch slightly attached over the edges, completely fixed in less than half the circumference, with enough strength to be easily partially opened. That patch in turn is connected with wires to the introducer sheath left in the femoral artery after stent graft deployment, as a backup. In case of delayed paraplegia development, a string can be pulled to open the fenestration in the graft, allowing a type III endoleak to evolve. The force of blood flow then keeps the patch open (Figure 1).

The introduction of endovascular techniques as an alternative option for the treatment of thoracic aortic disease gave rise to some optimism because the risk of paraplegia seemed reduced to somewhere in the range of 0% to 6%.⁵ Nevertheless, the risk of SCI remains a constant threat, with only a very few treatment techniques that can give us some hope for better results. It should be mentioned that delayed paraplegia is somewhat more frequent after endovascular treatment of thoracic aortic aneurysms than after open thoracoabdominal aortic aneurysmal repair. Reasons for this difference,