Peer Review File

Article information: https://dx.doi.org/10.21037/jtd-23-1643

Reviewer A

Comment 1: Well known complication of hook wires. Not enough importance in order to publish a single case with this.

Reply 1: I appreciate the reviewer comments. Although the migration of the hook wire has been reported in previous literature, the migration to the pulmonary artery is extremely rare. Secondly, for the migration of the hook wire, the processing methods are different. Because there is no standard processing process, it causes unnecessary trauma to patients. We summarize how to avoid the migration of a hook wire before positioning, and how to manage wire migration during surgery.

Changes in the text: None

Comment 2: Reasonable doubts about the correct indications of placing 3 hook wires on a single patient. Seems more iatrogenic than a random complication.

Reply 2: I appreciate the reviewer comments. For multiple pulmonary nodules, the simultaneous surgical treatment of the remaining lesions is controversial. For high-risk nodules, we prefer to choose simultaneous surgical treatment, which will inevitably require multi-point puncture positioning.

Changes in the text: None

Reviewer B

Comment 1: The RUL nodule was not in the central and does not near any vessel in the figure 1A, and E. The mechanism of the hookwire migration was not well explained in the discussion. hookwire was noted in Figures 1F, and G, but not seen in 1E. What's the red dot in Figure 1 indicated for? if it indicated the tumor, the yellow circle and red dot of 1C and G are not the same nodule! Does that mean the technique of CT-guided localization needs to improve?

Reply 1: I appreciate the reviewer comments. I am sorry for the confusion caused by the unclear description of the picture. We have modified our figure legend. (see Page 9-10, line 274-279) Although the RUL nodule was not central, the positioning needle was deep and close to the blood vessels. We added the depth of the hook wire into the lung parenchyma which was 3.5cm in right upper lobe, 2.6cm in right middle lobe, 2.2cm in right lower upper lobe. (see Page 3, line 78-79)

Changes in the text: The depth of the hook wire into the lung parenchyma was 3.5cm

in right upper lobe, 2.6cm in right middle lobe, 2.2cm in right lower upper lobe.

Figure 1 Location of pulmonary nodules(As shown in the yellow circle) and hook wire puncture(As shown in the red dot) guided by CT. (A-C) Upper, middle, and lower lobe nodules; (E-G) Hook wire location of the markers; (D) the nodule locations were reconstructed in 3D.

Comment 2: Except for the lobectomy, are there more options to solve this problem such as an angiographic approach? What are the pros and fos of these methods?
Reply 2: I appreciate the reviewer comment, and agree. The advantage of angiography approach is being minimally invasive, but patients need to bear the risk of additional surgery, such as surgical failure, vascular tear, and re-migration.
Changes in the text: None.

Introduction:
- The introduction clearly states why this case is unique - hook wire migration into the pulmonary artery is an rare complication. Previous case reports are cited.

Case Description:
- The case description provides good detail on the patient's demographics, clinical history, imaging findings, and surgical interventions. The timeline of events is clear.

Comment 3: One suggestion is to provide more specifics on the type/model of hook wire used and the technique for placement (e.g. distance of wire tip from a nodule, angle/trajectory of placement, etc.) to understand risk factors for migration.

Reply 3: Thank you for your professional advice. We added the depth of the hook wire into the lung parenchyma which was 3.5cm in right upper lobe, 2.6cm in right middle lobe, 2.2cm in right lower upper lobe. (see Page 3, line 78-79)
Changes in the text: The depth of the hook wire into the lung parenchyma was 3.5cm in right upper lobe, 2.6cm in right middle lobe, 2.2cm in right lower upper lobe.(see Page 3, line 78-79)

Diagnostic Assessment:
- The use of intraoperative CT to identify migration of the hook wire into the pulmonary artery was critical. This allowed prompt surgical retrieval without further delay.

Therapeutic Intervention:
- Extending the original incision to directly retrieve the migrated wire avoided the need

for a second procedure like DSA or thoracotomy. The stepwise surgical approach is clearly described.
- Illustrating the wire location on imaging pre-op, intra-op, and post-removal provides excellent documentation.

Discussion:
- The discussion summarizes the key lessons learned in wire localization cases - techniques to prevent migration, and how to manage it intraoperatively if it occurs. Limitations of the techniques are acknowledged.
- Comparison to other similar published cases is made. The rationale for the treatment decisions is clear.

Overall, this case report highlights a rare but serious complication of hook wire localization and guides techniques to prevent and manage wire migration. The discussion successfully contextualizes this case within the current literature. The report is well-written and informative.