

# Bronchial artery embolization for the treatment of delayed massive hemoptysis due to a retained bullet

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## Abstract

Bronchial artery embolization is a feasible option for treating hemoptysis caused by foreign objects in patients who are not candidates for surgery.

## KEYWORDS

bronchial artery embolization, foreign body, gunshot wound, hemoptysis, lobectomy

## CLINICAL IMAGE

A 51-year-old male with a medical history of intracranial haemorrhage and a gunshot wound with a retained bullet in the left lung 6 years prior presented to the emergency department with massive hemoptysis. Computed tomography (CT) of the chest revealed left lower lobe (LLL) opacification and a retained bullet (Figure 1A). He was intubated and underwent emergent bronchoscopy, which showed that the entire left lung was filled with blood clots. Bronchoscopy was performed with cryotherapy (Figure 1B). Large amounts of blood clots were removed from the left lung (Figure 1C). He was not a candidate for surgery due to neurological status and critical condition. The patient underwent successful particle embolization of the left bronchial artery with embospheres (Figure 1D). Hemoptysis was stopped, and the patient was extubated. Retained intrapulmonary foreign bodies due to gunshot wounds presenting with delayed hemoptysis have been previously reported in the literature.<sup>1</sup> Delayed sequelae from lung injury are rare. Bullets can erode the bronchial arteries and can cause pulmonary haemorrhage. Treatment includes lobectomy and surgical removal of the metallic foreign body.<sup>2</sup> Bronchial artery embolization has

not been used previously for hemoptysis related to bullet embolization and is an alternative option.

## AUTHOR CONTRIBUTIONS

Author has contributed to the conception, design of the work, acquisition, analysis, interpretation of data for the work, drafting the manuscript and final version of publication.

## CONFLICT OF INTEREST STATEMENT

None declared.

## DATA AVAILABILITY STATEMENT

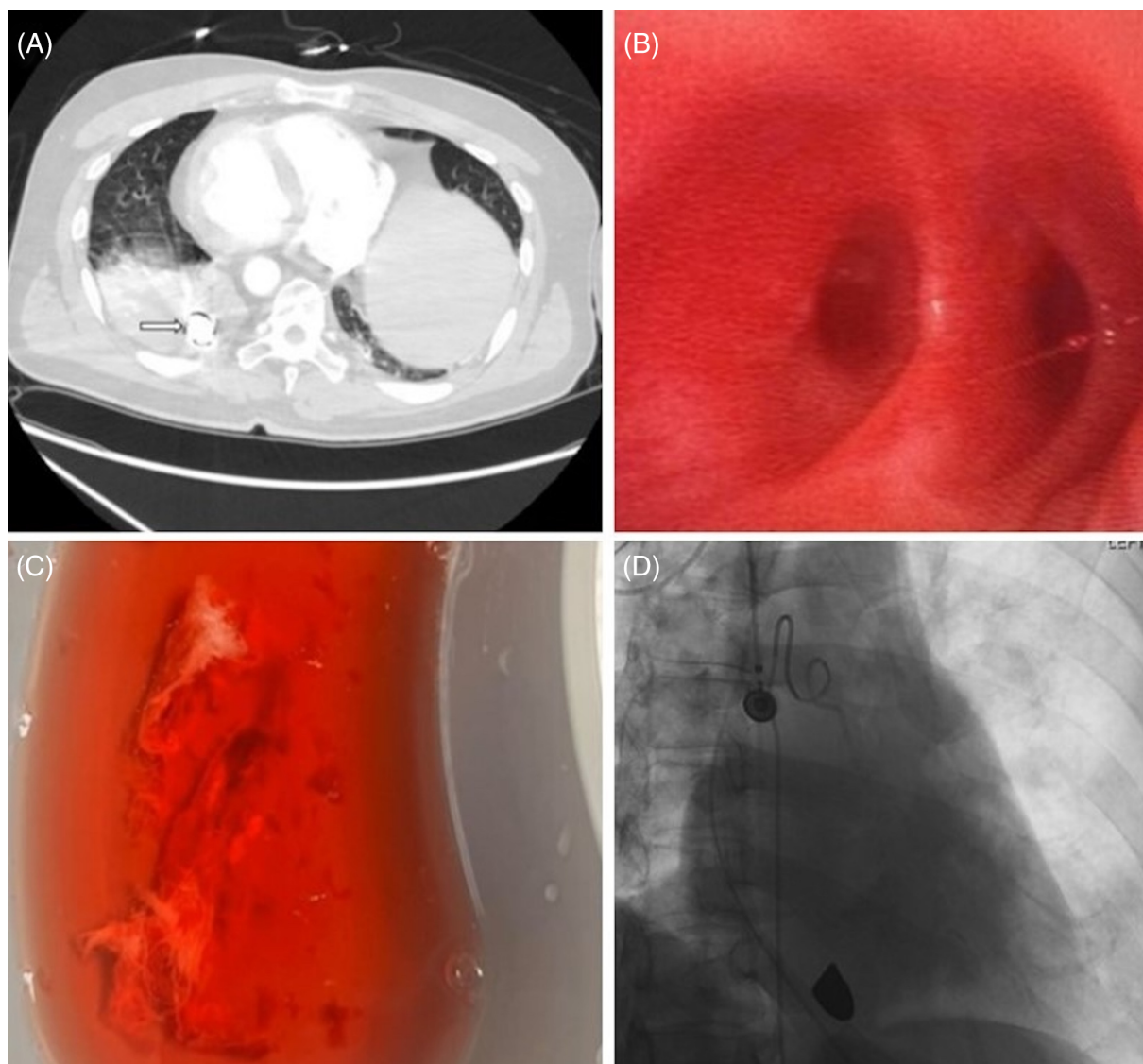
The data that support the findings of this study are available from the corresponding author upon reasonable request.

## ETHICS STATEMENT

The author declares that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images.

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**FIGURE 1** (A) Computed tomography (CT) of the chest showing left lower lobe opacification. The arrow points toward the retained bullet in the left lower lobe. (B) Bronchoscopy image showing the left lower lobe after removal of blood clots with cryotherapy. (C) Large amount of blood clots removed from the left lower lobe via bronchoscopy using cryotherapy. (D) Left bronchial arteriogram showing particle embolization of the left bronchial artery with embospheres and pruning of bronchial artery branches.

## REFERENCES

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