



# Polymethyl methacrylate balls: an unexpected and surprising finding during an autopsy

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Before the emergence of antituberculosis drugs, rest and plombage were some of the treatments available for pulmonary tuberculosis.<sup>(1)</sup> Plombage is a historical and surgical treatment used in order to collapse the lungs and limit the spread of the tuberculosis infection by creating a space under the ribs in the upper chest wall and filling that space with inert material, such as rubber balloons, paraffin wax, and polymethyl methacrylate (commercially known as Lucite) balls.<sup>(2)</sup> The presence of such material might result in early or late complications, especially infections.<sup>(1)</sup>

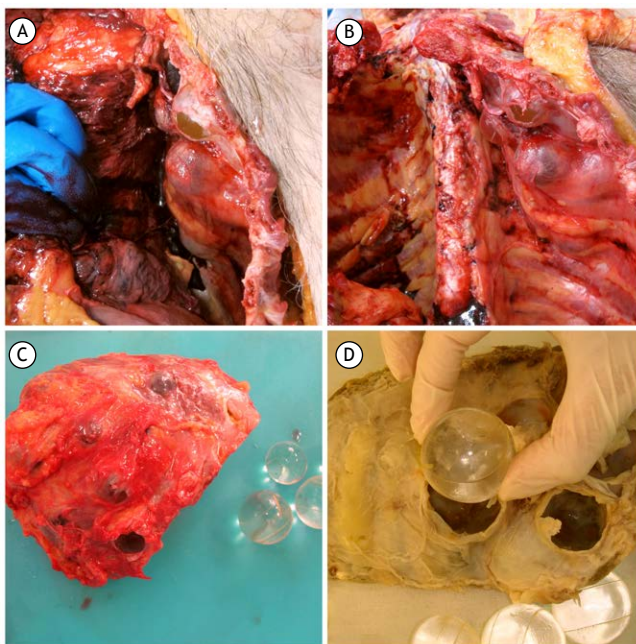
When performing an autopsy at the National Institute of Legal Medicine and Forensic Sciences in Coimbra, Portugal, in a 76-year-old man, whose cause of death was suicide by hanging, a conglomerate of synthetic translucent balls was unexpectedly found (Figure 1).

An inquiry to the family revealed that the victim had a personal history of pulmonary tuberculosis during his youth that was treated by plombage with Lucite balls.<sup>(3)</sup> In this case, the autopsy and the post-mortem histopathological examination revealed no sign of infection.

The authors aim to draw the attention of young medical generations to the possibility of coming across such incidental findings and to the complications due to such therapeutic interventions, which can ultimately cause death.

## AUTHOR CONTRIBUTIONS

EMBC: autopsy; drafting and revision of preliminary and final versions; and approval of the final version. RHG and JESP: autopsy and histology; revision of preliminary and final versions; and approval of the final version.



**Figure 1.** In A and B, polymethyl methacrylate balls located in the costal arches that practically occupy the entire upper half of the left pleural cavity, replacing some ribs. In C and D, a conglomerate of costal arches interspersed with those balls during the autopsy (in C) and after being fixed with 10% formaldehyde (in D).

## REFERENCES

1. Shepherd MP. Plombage in the 1980s. *Thorax*. 1985;40(5):328-340. <https://doi.org/10.1136/thx.40.5.328>
2. Calado T, Alvoeiro M, Cabral D, Antunes M, Félix F. Surgical Treatment of Complications 55 Years After Extraperiosteal Lucite Ball Plombage for Pulmonary Tuberculosis. *Rev Port Cir Cardiorac Vasc*. 2017;24(3-4):139.
3. Gotoh S, Chohnabayashi N. Images in clinical medicine. Infection 57 years after plombage. *N Engl J Med*. 2009;360(23):e29. <https://doi.org/10.1056/NEJMicm0707466>

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