

# Paradoxical embolism

Paradoxical [embolism](#) (PDE) refers to direct passage of venous thrombi into the arterial circulation through an arteriovenous shunt. It is well-known that the [pulmonary embolism](#) (PE) can cause opening of the foramen ovale leading to paradoxical arterial embolism.

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Only a few clinical cases of cerebral arterial [air embolism](#) during [spinal surgery](#) are published. It seems important not to overlook this [diagnosis](#) in order to initiate rapid appropriate [treatment](#). This was a suspected case of paradoxical [gas embolism](#) revealed postoperatively by [neurological deficits](#) and whose [recovery](#) was noted during [hyperbaric oxygen](#) treatment. Unfortunately, no complementary [examination](#) showed [gas embolism](#) and only the context, the clinical picture and the case evolution evoke this [diagnosis](#). The diagnostic difficulty in the immediate [postoperative](#) period is highlighted <sup>1)</sup>.

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A 57-year-old woman presented with initial symptoms of numbness/weakness and hypoxemia. Ultrasonography and pulmonary arteriography indicated pulmonary thromboembolism.

Pulmonary embolism and paradoxical multiple arterial embolism or acute PTE concomitant with paradoxical multiple arterial embolism.

Craniectomy and anticoagulation treatment was administered and the patient received low-dose [warfarin](#) therapy for 10 years.

The patient is currently stable with no abnormalities seen in the deep veins of the bilateral lower limbs. The international normalized ratio (INR) was controlled within the range of 1.20 to 1.51. As this is a 10-year follow-up case report, the patient has responded well to the treatment and has been followed-up. The follow-up has been annual and the patient has been stable.

Low intensity and persistent anticoagulation therapy can inhibit blood thrombophilia and reduce the risk of bleeding. It is noteworthy that such an approach used effectively in this patient.

It is the first report for long term follow up [Paradoxical embolism](#) (PDE) patient successfully over 10 years <sup>2)</sup>.

<sup>1)</sup>

Baptiste L, Kamar Z, Mazaud A, Balança B. Air embolism during lumbar surgery in the prone position. Diving Hyperb Med. 2021 Sep 30;51(3):303-305. doi: 10.28920/dhm51.3.303-305. PMID: 34547783.

<sup>2)</sup>

Huang G, Tang Y, Wang H, Xiong R, Xu A. Lower limb vein thrombosis-induced pulmonary embolism and paradoxical multiple arterial embolisms: A case report with a 10-year follow-up. Medicine (Baltimore). 2019 Jul;98(30):e16522. doi: 10.1097/MD.00000000000016522. PubMed PMID: 31348266.

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