

# Left internal mammary spasm mimicking graft dissection in the course of percutaneous coronary intervention of anastomotic in-stent restenosis

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The percutaneous coronary intervention (PCI) of left internal mammary artery (LIMA) bypass to left anterior descending artery (LAD) confers high risk of intractable spasm and graft dissection. This case presents a 67-year-old male, following coronary artery bypass grafting and PCI of LIMA-LAD anastomosis with drug-eluting stent implantation 7 months prior to index hospitalization, who currently presented with inferior wall ST-segment elevation acute myocardial infarction. The coronary angiography performed via right femoral approach showed new significant 90% stenosis within the first diagonal branch and 99% in-stent restenosis in LIMA-LAD anastomosis (Fig. 1A). First, the lesion in LAD/diagonal branch was predilated with a 2.5 mm balloon and a 2.5 × 25 mm sirolimus-eluting stent was implanted. Second, an internal mammary artery guiding catheter was employed and the Whisper LS<sup>®</sup> guidewire was advanced

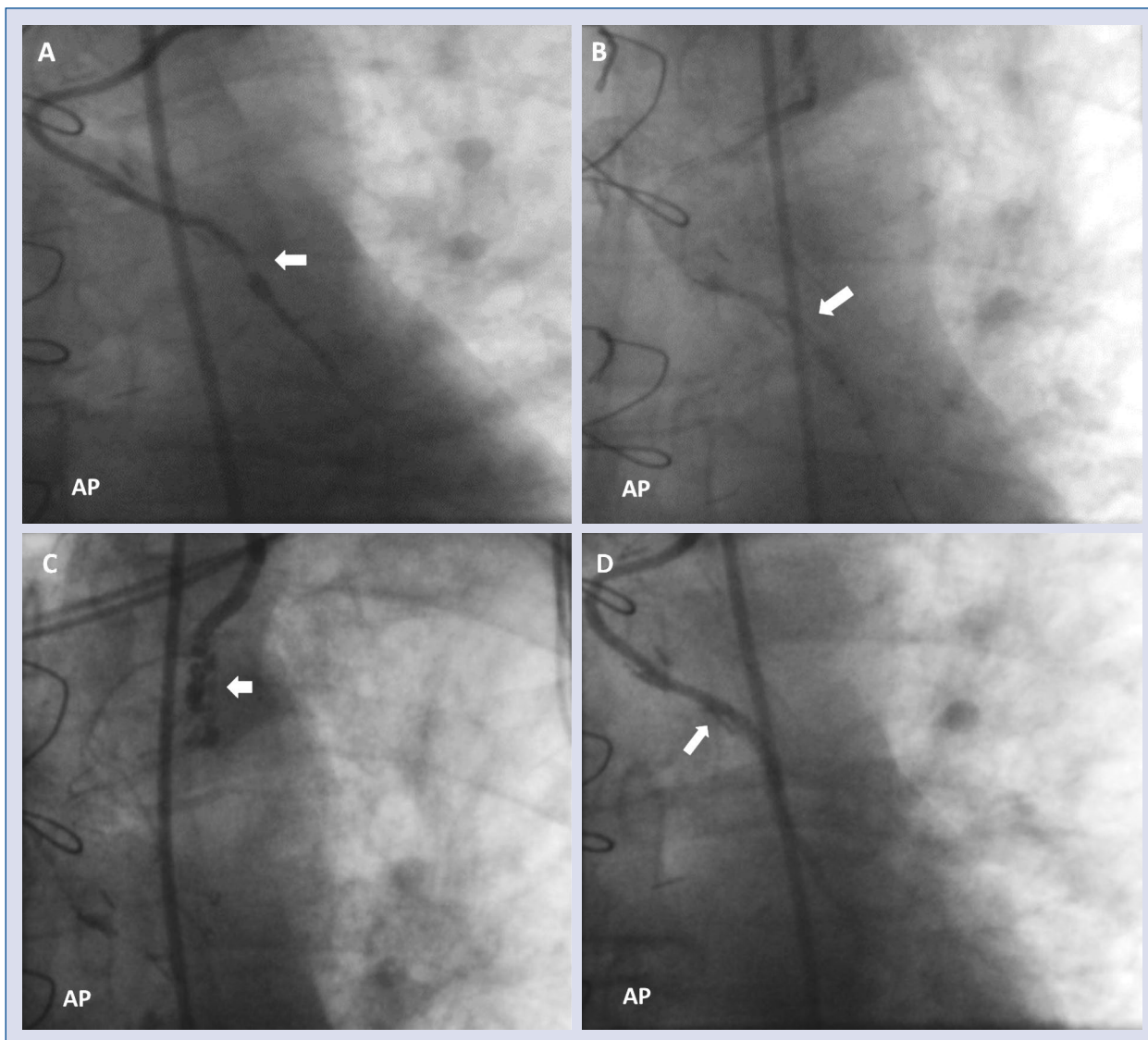
across the LIMA-LAD restenosis. The lesion was initially predilated with the 2.5 mm balloon and a 2.0 × 23 mm everolimus-eluting stent was implanted (Fig. 1B). Following stent deployment, a severe impairment of LIMA-LAD flow was documented (Fig. 1C, **Suppl. Movie 1**), which was accompanied by aggravation of retrosternal chest pain and reduction of blood pressure (90/60 mmHg). Although LIMA dissection was suspected, double intracoronary bolus of diluted 0.1 mg nitroglycerine led to gradual restoration of Thrombolysis in Myocardial Infarction 3 blood flow (Fig. 1D) and, paradoxically, improvement of hemodynamic status (130/80 mmHg). The patient was discharged home following an uneventful further in-hospital stay. Iatrogenic periprocedural LIMA constriction should always be suspected and vasodilative agents utilized in cases of impaired flow during LIMA PCI.

**Conflict of interest:** None declared

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**Figure 1.** Coronary angiography performed via right femoral approach. **A.** Anterior-posterior (AP) view, arrow — 99% in-stent restenosis in left internal mammary artery (LIMA) to left anterior descending artery anastomosis; **B.** AP view; arrow — implantation of evolimus-eluting stent within the anastomotic in-stent restenosis; **C.** AP view; arrow — dissection-like impairment of flow within the arterial graft due to severe spasm of LIMA; **D.** AP view; arrow — restoration of Thrombolysis in Myocardial Infarction grade 3 blood flow after intracoronary administration of nitroglycerine.