

Title: CORONARY ARTERY PERFORATION AFTER STEMI TREATMENT LEADING TO AN ANTERIOR MEDIASTINAL HEMATOMA WITH EXTENSION INTO THE CHEST WALL AND SUBCUTANEOUS TISSUE

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Introduction: This case describes a rare post-PCI complication following coronary artery perforation.

Case Report: A 90-year-old male with a history of CABG (SVG-D1 and LIMA-LAD) presented with an inferior STEMI. Cardiac catheterization revealed 100% occlusion of the mid RCA (mRCA). After balloon angioplasty and PCI with a 4.0 x 15 mm drug-eluting stent (DES), an Ellis class II perforation was noted. The patient remained hemodynamically stable. A 4.0 x 20 mm covered stent was deployed, sealing the perforation. Post-procedure TTE showed no pericardial effusion.

One week later, the patient presented with NSTEMI. CTA identified a 7.4 x 6.3 x 4.4 cm hematoma in the anterior mediastinum, encasing the mRCA stent, extending into the chest wall, subcutaneous tissue, pericardium, and the right atrioventricular groove. Cardiac catheterization showed 100% in-stent thrombosis of the mRCA. Thrombectomy and PCI were successfully performed with a 3.5 x 48 mm DES, and no perforation was seen. TTE showed no pericardial effusion.

A month later, the patient returned with sternal swelling and chest pain on palpation. CTA revealed an increase in hematoma size to 8.3 x 7.5 x 6.9 cm. Coronary angiography showed a new mRCA aneurysm with contrast extravasation, concerning for a new perforation. PCI was performed with another 4.0 x 20 mm covered stent at the perforation site. Over the following week, CT scan showed a reduction in hematoma volume. The patient was discharged in stable condition.

Discussion : While coronary artery perforation leading to hematoma formation is a rare but known complication of PCI, the development of an anterior mediastinal hematoma extending into the chest wall and subcutaneous tissue has not been previously reported. Diagnosis and treatment can be challenging. Despite these complications, the patient remained hemodynamically stable throughout the hospital course, likely due to the prior CABG. A favorable outcome was achieved with timely, targeted interventions.

Conclusion: This case describes a rare complication following PCI, emphasizing the importance of individualized treatment strategies in complex cases. It demonstrates that favorable outcomes are possible with vigilant management.