CARDIOGENIC SHOCK: A TREACHEROUS CASE OF NON-OVERT BLEEDING COMPLICATION OF IMPELLA 5.5 DEVICE

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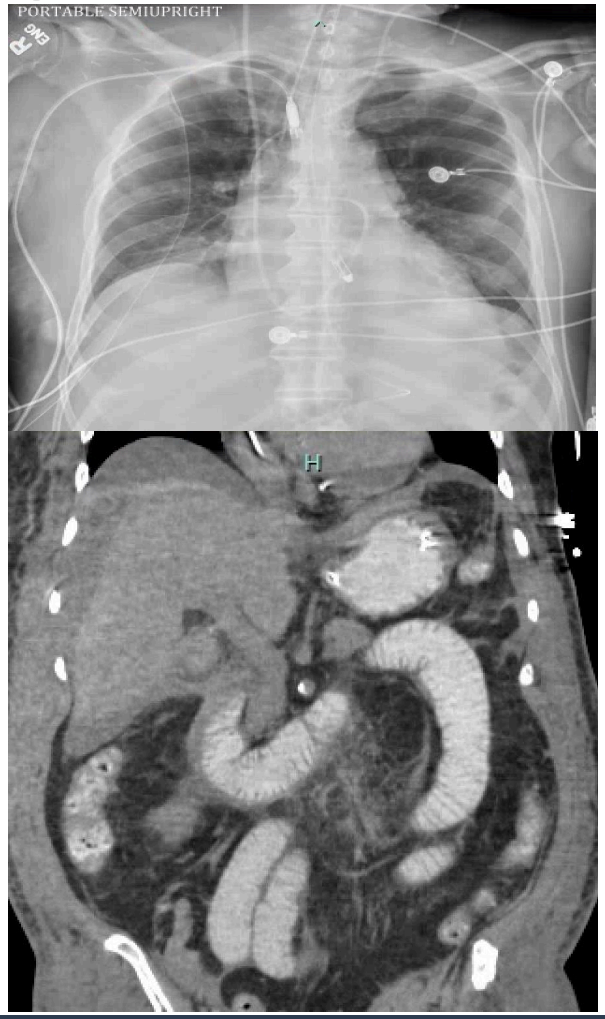
INTRODUCTION

We report a case of occult bleeding of axillary artery access site used for Impella 5.5 device in a patient with cardiogenic shock and manifested as a subphrenic blood collection.

CASE

74-year-old male was hospitalized with acute heart failure with LV ejection fraction of 10% due to non-ST elevation myocardial infarction. Patient decompensated with cardiogenic shock and cardiac arrest with pulseless electrical activity and ROSC was achieved after four minutes of resuscitation. For hemodynamic support Impella 5.5 device was implanted via trans-pectoral right axillary artery cut down approach without complication. After hemodynamic stabilization, percutaneous coronary intervention with stenting of three coronary vessels was performed. Immediately after PCI, patient developed vasodilatory shock attributed to sepsis. Patient developed worsening of anemia which prompted CT abdomen pelvis and revealed a subphrenic collection of fluid suggestive of bleeding. Other etiologies of anemia including disseminated intravascular coagulation, hemolysis, drugs, infection, and nutritional factors were excluded. Axillary artery access site appeared intact. Patient required multiple transfusion of PRBCs over the course of hospital stay and was managed conservatively. After cardiac function improved, during Impella explantation, an active bleeding with subpectoral hematoma was observed at graft anastomosis and blood was noticed tracking down the fascial plans which might have followed to Sub-diaphragmatic area through diaphragmatic hiatus or porous diaphragm. Diagnosis was further supported by hemodynamic stability and no requirement of transfusions after bleeding site was surgically repaired.



DISCUSSION

Use of Impella device in cardiogenic shock and high-risk PCI is increasing and it reduces the requirement of inotropes and vasopressors within first 24 hours of index event and improves cardiac power by 67%. Nevertheless, Impella use is fraught with various complications including bleeding and vascular access complications, 17.5% and 9.7 %, respectively. Other complications include hemolysis (10.3%), infections (12.9%), limb ischemia (3.9%), renal dysfunction and aortic valve regurgitation. Our patient developed anemia secondary to shock bone marrow, further complicated by insidious blood loss from the axillary artery access site graft leak and blood travelled through the thoracic fascial planes down across the diaphragm to subphrenic space as observed on CT scan abdomen. After repair of vascular leak, hemoglobin improved without requiring additional transfusions.

Conclusion: Bleeding from axillary artery at the insertion site of Impella 5.5 device can be insidious and occult, and it can result in subpectoral hematoma. A high index of suspicion should be maintained to promptly diagnose the bleeding complication.

REFERENCE

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