

Iatrogenic Right Radial Arteriovenous Fistula Post Percutaneous Coronary Intervention

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Abstract

Background: Percutaneous Coronary intervention are increasing by transradial access due to decreased access site complications. However iatrogenic radial arteriovenous fistula can occur rarely and need attention.

Case summary: We describe the case of 51 year old female with swelling near the right wrist joint 3 months after percutaneous coronary intervention to Obtuse marginal. On examination, thrill was noted at the site of transradial access. Ultrasound Doppler confirmed the presence of the radial arteriovenous fistula which was surgically taken down. Following repair no thrill was noted

Discussion: Though radial arteriovenous fistula are rare and benign in nature, potential hazards of high output state and distal limb loss cannot be ruled out completely. They are generally managed by surgical ligation though conservative and percutaneous approaches are mentioned in the literature.

Keywords: Iatrogenic; Arteriovenous fistula, radial arteriovenous fistula; catheterization; Coronary intervention; Complication; Transradial access.

INTRODUCTION

In the recent years there is increased use of transradial access for a coronary catheterization

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and percutaneous coronary intervention (PCI) due to decreased risk of major access site complications, shorter hospital stay and cost effectiveness. It is hence necessary to understand the potential major and minor complications of transradial access for intervention.¹ Post percutaneous coronary intervention arterio-venous fistula (AVF) is a very rare complication and needs an attention. It can be managed either by conservative, endovascular or surgical treatments based on the anatomical characteristics.²

CASE DESCRIPTION

A 51-year-old female patient with Coronary artery Disease, Single vessel disease and hypertension underwent percutaneous intervention through



the right radial artery to the Obtuse marginal. She was asymptomatic and doing well post procedure. However 3 months post PCI she noticed the pulsatile swelling at the right wrist joint with bruit while measuring Blood pressure by self.

On examination, thrill was noted at the site of transradial access. Ultrasound Doppler confirmed the presence of the radial arteriovenous fistula of size 2cm which was planned for surgical repair. The repair was done with aseptic precautions under local anaesthesia using vertical skin incision over the pulsatile mass. Fistulous tract between the anterior wall of the radial artery and the adjacent branches of the cephalic vein noted (Fig. 1). The arteriovenous fistula was

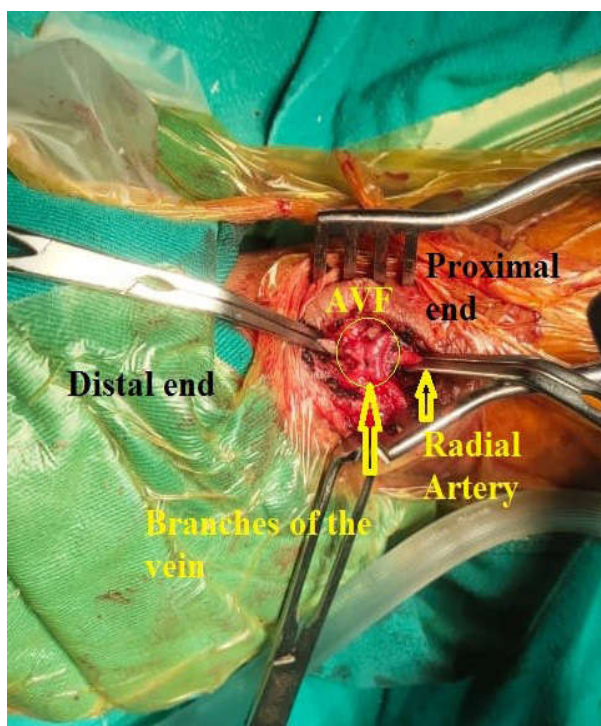


Fig. 1: Iatrogenic Arteriovenous fistula at the site of radial puncture for percutaneous intervention

resected at the point of entrance into the right radial artery. Rent in the artery was repaired directly using 6-0 prolene sutures. The both ends of the fistula were ligated using hemostat clips and secured by prolene 6-0 sutures (Fig. 2). After the surgical resection, thrill and pulsatile swelling disappeared.

Post Procedure Ultrasound Doppler showed no fistulous connection. Right Radial pulses was palpable distally. The procedure and recovery was uneventful. The patient was discharged the same day.

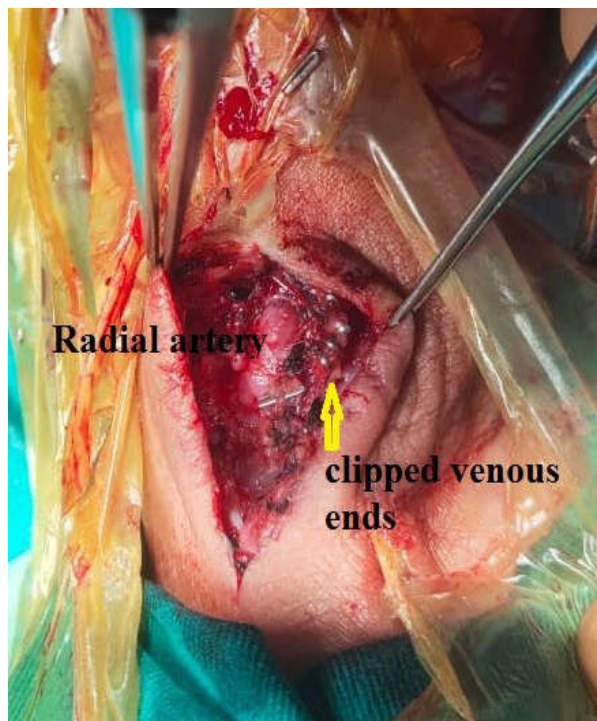


Fig. 2: Post arteriovenous fistula repair.

DISCUSSION

Iatrogenic post-percutaneous interventional radial AVF is a very rare complication with an incidence of 0.04%.³ Most of these post-catheterization AVF can be managed conservatively. However due to the high blood flow through the arteriovenous fistula, endovascular or surgical management is preferred to avoid the complications of high output or to avoid the risk of distal limb loss. Endovascular strategies that include thrombin embolization and new endovascular treatment do yield good results⁴. However if it fails or is not available, Surgical resection is the definitive alternative.⁵

CONCLUSION

Iatrogenic radial arteriovenous fistula are an extremely rare occurrence post cardiac catheterization or intervention. However if encountered may need surgical repair.

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