

Two Cases Of Papillary Fibroelastoma Obstructing Coronary Ostia- Differing Anesthetic Management Leading To Divergent Outcomes

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Citation

A C Adler, R R Joyce, T Chahla. *Two Cases Of Papillary Fibroelastoma Obstructing Coronary Ostia- Differing Anesthetic Management Leading To Divergent Outcomes*. The Internet Journal of Anesthesiology. 2013 Volume 32 Number 2.

Abstract

INTRODUCTION

Papillary fibroelastomas (PFE) are the second most common primary cardiac neoplasm and the most common valvular tumor [1,2]. Frequently arising at areas of high flow, PFEs are potential causes of ostial obstruction leading to myocardial ischemia and hemodynamic instability [3]. We report 2 cases of PFE, in both cases coronary ischemia was observed.

CASE REPORTS

Case 1

A 40 year old female without significant past medical history admitted for elective surgical removal of an aortic valve fibroelastoma causing intermittent myocardial ischemia [fig 1]. Following induction with etomidate & fentanyl, the patient became hypotensive. EKG monitors displayed SVT and marked ST-depressions. She was stabilized, and while invasive lines were being placed, she had a single episode of ventricular fibrillation and loss of blood pressure. TEE noted global hypokinesis. She was successfully treated with 50 seconds of chest compressions and defibrillation followed by emergent thoracotomy & initiation of cardiopulmonary bypass. The aortic valve was accessed & a 2cm tumor on the left coronary cusp was excised [fig 2].

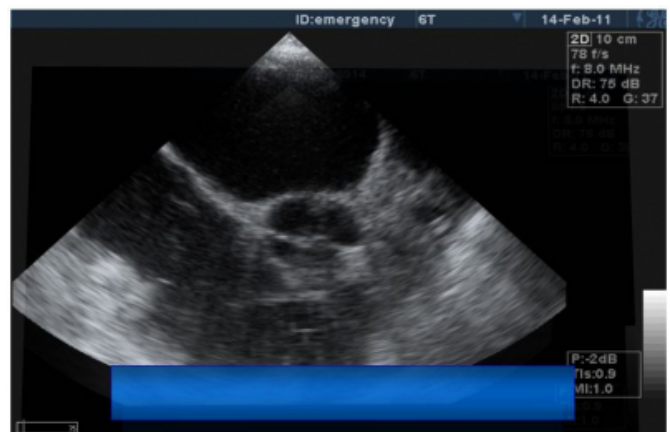
Figure 1

Transesophageal echocardiography (short axis view) showing aortic valve PFE at the ostium of the left main coronary artery (Case 1).



Figure 2

Transesophageal echocardiography (short axis view) showing aortic valve post PFE resection (Case 1).



Case 2

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A 61-year-old female presented after experience severe chest pain. EKG was normal however serum troponin was elevated. Emergent catheterization identified a mobile mass adjacent to and occasionally obstructing the right coronary ostia [fig 3]. Elective resection was planned, however, due to transient EKG changes hypotension overnight, she was taken to the OR for emergent resection. She was prepped, draped with defibrillation pads in place prior to induction. Arterial and central venous lines were placed awake with 5mg midazolam titrated in at 0.5mg over 1 hour. The surgeons were scrubbed, gowned and at bedside, ready to open the chest. Due to hemodynamic instability with hypotension, a phenylephrine infusion was started to targeting systolic blood pressures of >160. Induction of anesthesia for endotracheal intubation was accomplished with 2mg midazolam, 30 mg propofol, 150 mcg fentanyl and 120mg succinylcholine. Following induction, scopolamine 0.4mg IV was given. Transverse aortotomy was performed revealing a 2 x 2 cm friable mass attached to a portion of the right coronary cusp free edge of the aortic valve [fig 4-7]. She was transferred to the cardiac intensive care unit and extubated on the day of surgery. The following morning, the patient was resting comfortably and had no memories of the awake preparation in the OR.

Figure 3

Transesophageal echocardiography (short axis view) showing aortic valve PFE at the ostium of the right coronary artery from Case 2.



Figure 4

Intra-op view of PFE resection (Case 2).

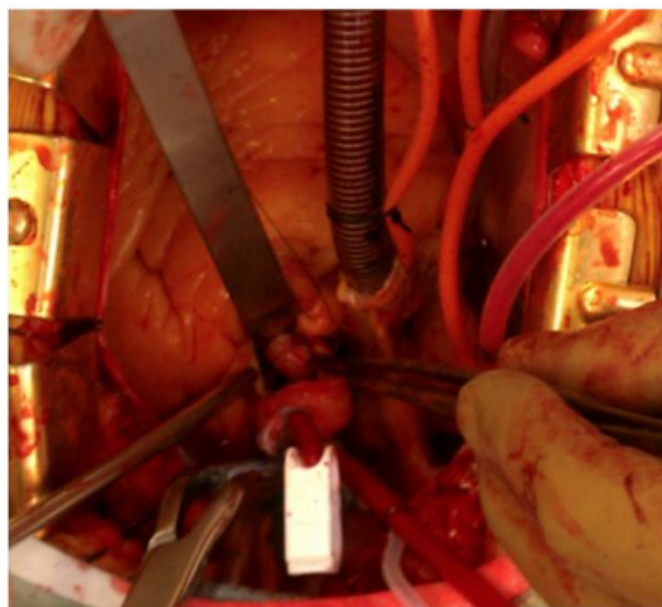


Figure 5

Gross specimen- Case 2.

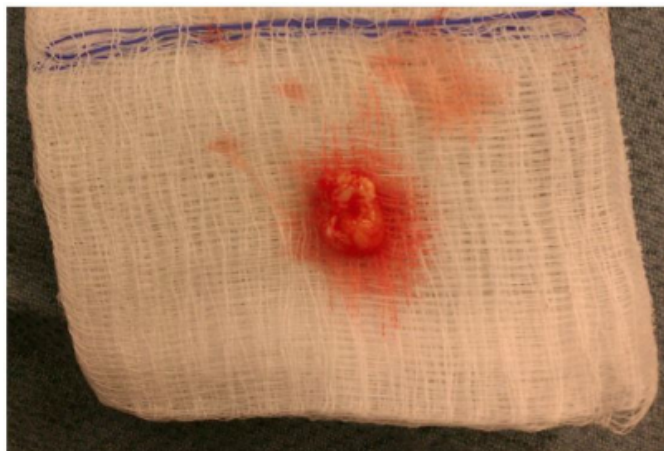


Figure 6

Tissue sample from Case 1 demonstrating a papillary branch pattern, hematoxylin and eosin, 4x magnification.

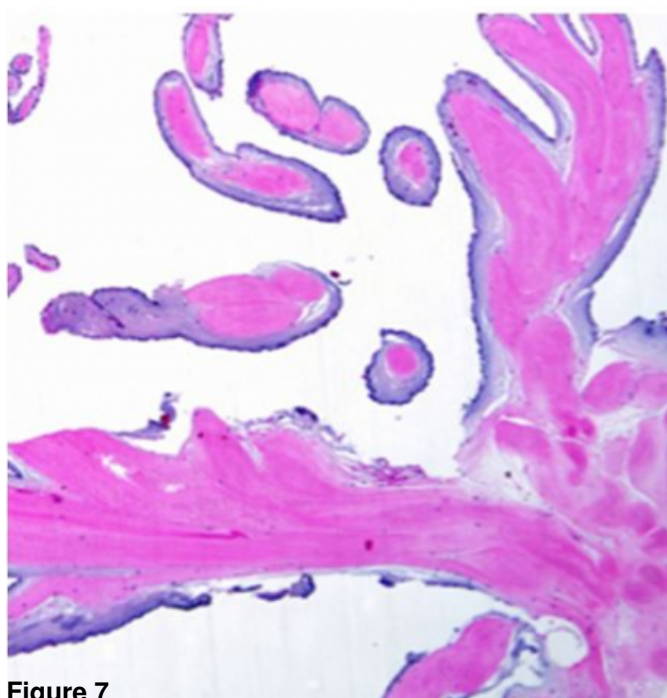
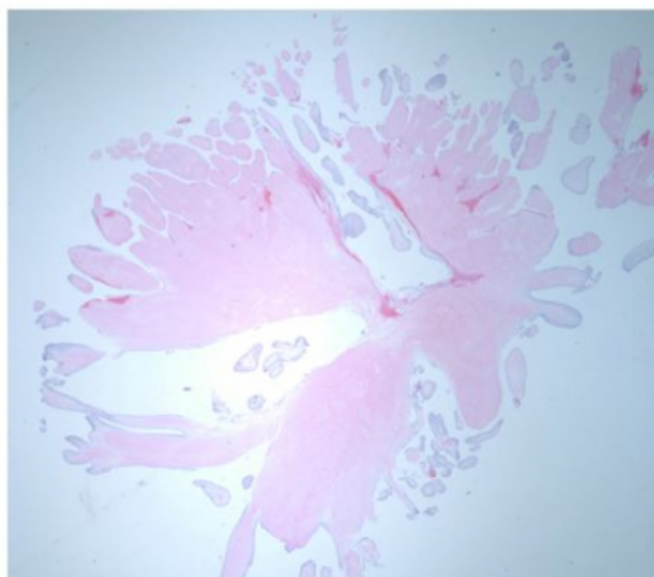


Figure 7

Tissue sample from Case 2 demonstrating a papillary branch

pattern, hematoxylin and eosin, 4x magnification.



DISCUSSION

Papillary fibroelastomas adjacent to coronary ostia can obstruct the coronary arteries leading to ischemia changes and hemodynamic instability. In these cases the anesthetic management was aimed at prevention hypotension and thus, coronary ischemia. Additionally, preparation was made for possible emergency defibrillation with the surgical team ready to initiate CPB immediately and without delay should hemodynamic instability occur. The use of carefully titrated midazolam and scopolamine was incorporated to insure amnesia and improve patient satisfaction.

References

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