



Simultaneous Management of Unstable Angina and Renal Colic in Ankylosing Spondylitis

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Abstract

Background: Ankylosing spondylitis (AS) is a seronegative inflammatory disease that progressively affects the spine and sacroiliac joints. It can also predispose patients to several other pathologies. Renal stones have been rarely reported in patients with AS. **Case Presentation:** In this case we describe a 54 years old gentleman presented with acute renal colic as well as unstable angina posing a dilemma over the management strategy. We also discuss our management strategy where we carried out simultaneous an-aortic off pump beating heart CABG as well as retrieval of ureteric stone with satisfactory outcome. **Conclusion:** Though AS increases the risk of adverse outcomes after CABG it is not significantly associated with poorer overall mortality and long term outcomes. Therefore, patients should not be denied surgical revascularization. Awareness of issues around intubation, choice of conduits, access to the aorta, sternal closure, and mobilisation are important for a satisfactory outcome. The anaortic OPCAB approach, where possible, can ameliorate some of these issues, improve outcomes and minimize future reoperation in this challenging subset of patients.

Keywords:- Ankylosing Spondylitis, Unstable Angina, Off Pump Coronary Artery Bypass Grafting, Anaortic Coronary Artery Bypass Grafting

Introduction

Ankylosing spondylitis (AS) is a seronegative inflammatory disease that progressively affects the spine and sacroiliac joints. Co-existing issues like bilateral hip replacements, nephrolithiasis, skin lesions, peripheral vascular disease and coronary artery disease can occur (1–5) but are rarely reported to occur simultaneously in the same patient. We describe a case where a patient with severe ankylosing spondylitis presented with acute renal and cardiac issues and several other co-morbidities.

Case Study

A 52 year old gentleman presented with renal colic and unstable angina. His angiogram revealed 70% distal left main stem disease, severe triple vessel disease and an ejection fraction (EF) of 40%. He had restrictive lung function tests, doppler confirmed bilateral lower limb peripheral vascular disease (PVD). He also had significant skin changes in both legs with cord like palpable saphenous veins. He had borderline renal function test perioperatively with eGFR 72 ml/min/m². On ultrasound, multiple renal calculi with an obstructive left ureteric calculus causing dilatation of the pelvicalyceal system was observed. He had, previously, undergone bilateral hip replacements and had a severe fixed flexion deformity of the neck with a grossly reduced sterno-mental distance. [Figure 1]



Figure 1: Fixed flexion deformity of the cervical spine with reduced sternomantal distance and increased wall occiput distance

As both the pathologies demanded urgent attention a multidisciplinary team decided to perform concomitant cardiac and renal procedures under a single anaesthesia. Fibre-optic bronchoscope-aided intubation was carried out with adequate cervical spine support. Cysto-ureteroscopy was performed first with retrieval of the ureteric stone and insertion of a double J (DJ) stent.

Sternotomy, starting at the xiphisternum was carried out. However, the access to the ascending aorta was grossly reduced. [Figure 1]. Impaired access to the aorta as well as cord like veins in presence of peripheral vascular disease led us to embark upon an off-pump anaortic approach using bilateral internal thoracic arteries (BITA). A long tip diathermy and minimally invasive cardiac surgery instruments were used to dissect the internal thoracic arteries. Distal anastomosis to the left internal descending artery, the first obtuse marginal and the posterior descending artery was constructed in a LIMA-RIMA Y configuration.

The patient made an uneventful recovery and was discharged on day seven.

He has been recently visiting our vascular clinic for PVD and doing absolutely fine as per cardiology perspective with improved EF- 64%.

Discussion

Nephrolithiasis is a relatively uncommon extra-articular manifestation of ankylosing spondylitis. (Jakobsen et al., 2014) These patients are at a three-fold increased risk of surgical intervention for kidney stones compared to the general population. In our case the renal colic preceded and may have even led to the unstable angina and we had no option but to deal with both the pathologies simultaneously. The risk of CAD in patients with AS is 41% greater than the general population. (Ungprasert et al., 2017) and disease begins almost 6 years earlier. AS is a stronger predictor of early CABG than most traditional cardiovascular risk factors. (Hollan et al., 2008).

Eighty percent of Patients with AS have manubrio-sternal joint erosions or fusion and such eroded joints are usually replaced by collagenous and fibrous tissue spreading into the bone. (Savil et al., 2015) Thus bones can be hard to saw through yet brittle posing problems with sternal union. Moreover, stiff costochondral junctions make opening of the chest spreader difficult, and in our patient offered resistance to the IMA spreader. This and the reduced sterno-mental distance made IMA harvest and sternotomy difficult. Moreover, the kyphosis associated with AS leaves the heart deep inside the thoracic cavity making access for OPCAB grafting difficult.

Though AS increases the risk of adverse outcomes after CABG it is not significantly associated with poorer overall mortality and long term outcomes. (Lai et al., 2015) Therefore, patients should not be denied surgical revascularization. Awareness of issues around intubation, choice of conduits, access

to the aorta, sternal closure, and mobilisation are important for a satisfactory outcome. The anaortic OPCAB approach, where possible, can ameliorate some of these issues, improve outcomes and minimize future reoperation in this challenging subset of patients.

Conclusion

Though AS increases the risk of adverse outcomes after CABG it is not significantly associated with poorer overall mortality and long term outcomes. (Lai et al., 2015) Therefore, patients should not be denied surgical revascularization. Awareness of issues around intubation, choice of conduits, access to the aorta, sternal closure, and mobilisation are important for a satisfactory outcome. The anaortic OPCAB approach, where possible, can ameliorate some of these issues, improve outcomes and minimize future reoperation in this challenging subset of patients.

Conflicts of Interest

The authors declare that they have no conflict of interests.

Acknowledgment

The authors would like to thank the Director General of Health Malaysia for his permission to publish the paper.

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