

Prognostic Coronary Surgery in a Case of Malignant Mesothelioma Previously Managed with Trimodality Treatment



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We report a case of malignant pleural mesothelioma treated with trimodality treatment. At three years after the extrapleural pneumonectomy, coronary artery revascularisation surgery for NSTEMI was performed in view of favourable long term prognostic and survival outcome. Five years following pleuropneumonectomy there is no clinical or radiological evidence of mesothelioma and the patient remains free of cardiac symptoms.

Keywords

Mesothelioma • CABG • Pleura • Pneumonectomy • Trimodality therapy

Introduction

Malignant pleural mesothelioma (MPM) is a rare but aggressive neoplasm most commonly caused by exposure to asbestos. Median survival without treatment has been reported to be less than one year [1]. Trimodality treatment (TMT) involving neoadjuvant chemotherapy, surgery (pleuropneumonectomy) and adjuvant chemo/radiotherapy offers survival benefit in selected patients [2]. We describe here a case of MPM successfully treated with TMT who had coronary surgery three years later and is currently recurrence-free.

Case report

A 69 year-old man presented with cough and dyspnoea, with a history of asbestos exposure and a 20-pack year smoking history, having stopped 35 years previously. He had a

background of polycythaemia vera, COPD, hypertension, hypercholesterolaemia and a laparoscopic hernia repair. A chest x-ray showed a large right pleural effusion, which on cytological examination revealed the presence of malignant cells.

After thoracoscopy and biopsy confirmed epithelial mesothelioma, the patient underwent a regimen of neoadjuvant chemotherapy, right extrapleural pneumonectomy (EPP) and postoperative adjuvant radiotherapy. Histopathology confirmed epithelial type mesothelioma with classical asbestos bodies and clear margins. No nodal or port site involvement was identified.

Thirty-four months after the EPP, the patient suffered an inferior non-ST elevation myocardial infarction (NSTEMI). Coronary angiogram (Fig. 1) revealed right coronary (RCA) and left anterior descending artery (LAD) disease. Percutaneous intervention involving a bare metal stent to the RCA

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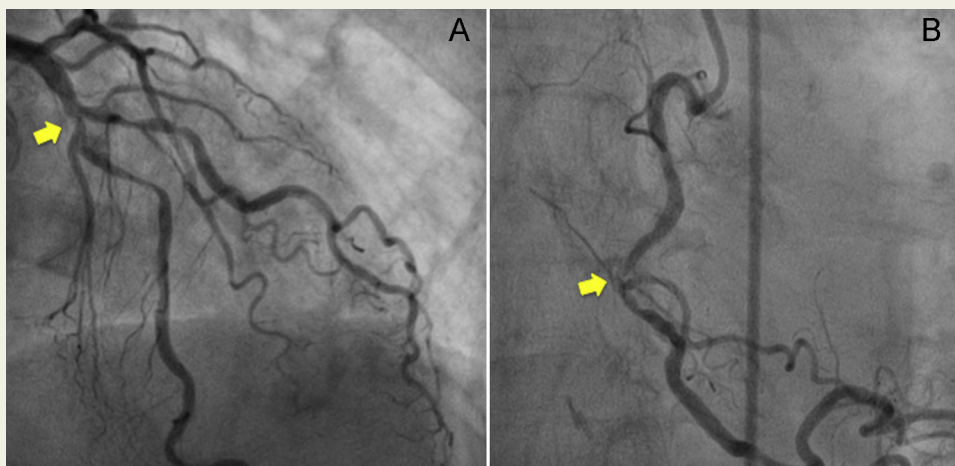


Figure 1 Coronary angiogram following presentation with NSTEMI. A – PA cranial view of left coronary system. B – RAO view of right coronary artery. Significant stenoses indicated.

was complicated by a contained vessel wall dissection distal to the stent. An intra-aortic balloon pump (IABP) was inserted and heparin and glyceryl trinitrate commenced, for ongoing ischaemia. A CT scan was done to determine a safe re-entry for coronary artery bypass graft surgery (CABG) and assess presence of MPM recurrence. Failure of the right hemidiaphragm reconstruction done at the time of EPP can be observed with the liver and intestinal loops occupying the right hemithorax. (Fig. 2).

CABG was performed the next day via median sternotomy. An in situ left internal mammary artery was anastomosed to the LAD. Two separate vein grafts were done to a large diagonal artery and to the posterior descending artery. A pleural biopsy taken at the time of surgery from the right side showed fibrotic inflammatory changes only. No malignancy

was detected. (Fig. 3) Post cardiac surgery recovery was uneventful.

At follow up 52 months after the extrapleural pneumonectomy and 56 months after initial presentation, the patient remains asymptomatic with no radiologic evidence of recurrence. Following the initial TMT regimen, no additional adjuvant therapy has been given.

Discussion

MPM is a highly aggressive cancer with a poor prognosis. The incidence of disease continues to climb in most industrialised nations [1]. The diagnosis of MPM can be challenging. Pleural fluid cytology may be suspicious but the diagnosis is often only established with pleural biopsy at



Figure 2 Coronal (left) and axial (right) views on CT chest showing abdominal contents occupying the right hemithorax. The right ventricle is in close contact with the posterior surface of the sternum. The CT scan was performed to delineate path of re-entry into the chest.

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