Royal Brompton and Harefield hospitals

NHS

A Successful Case Of Minimally Invasive Bypass Graft Combined With Thoracoscopic Atrial Fibrillation Ablation

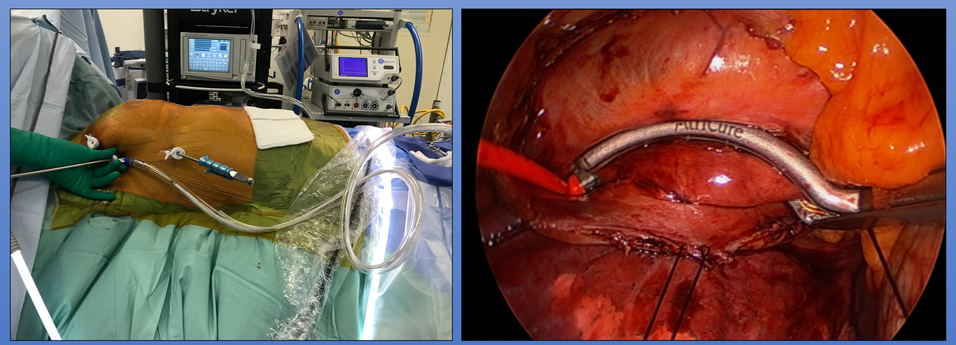
Maria Cannoletta, Richard Trimlett, Anthony De Souza
Royal Brompton & Harefield NHS Foundation Trust, London, United Kingdom

BACKGROUND

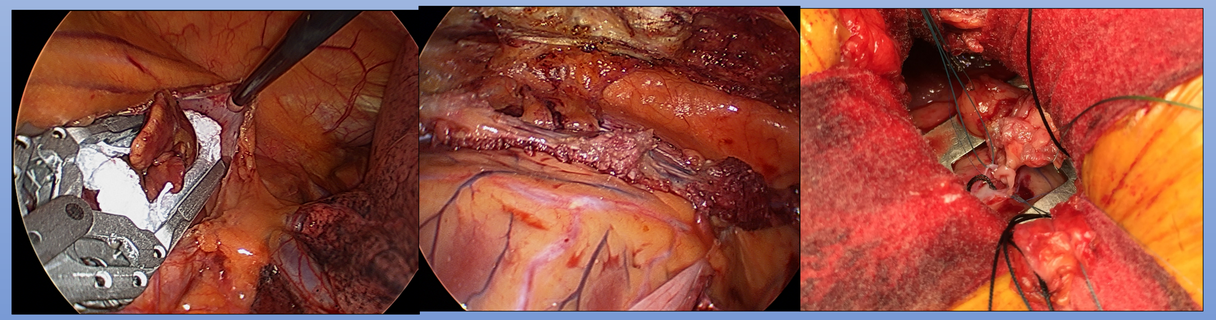
Endoscopic atraumatic coronary artery bypass surgery (EndoACAB) reduces the invasiveness of conventional CABG and has been routinely performed in our institution over the last 20 years, alone or in association with percutaneous intervention in multivessels disease (hybrid). Atrial fibrillation (AF) is the most common sustained tachyarrhythmia, associated with an increased risk of thromboembolic events. In cases of long standing persistent atrial fibrillation (LSPAF) catheter ablation has suboptimal results and surgical ablation can be offered. We successfully performed minimally invasive surgical ablation together with endoACAB as a combined procedure.

METHODS

A 57-year old man presented with atypical angina. He has a background of LSPAF, previous stent to RCA, HTN, CVA in 2015. A rubidium scan showed inducible ischaemia of apical and mid-anterior wall and an angiogram showed severe proximal LAD disease. An EndoACAB was proposed combined with bilateral thoracoscopic AF ablation.



(a). Right side approach. (b).bilateral pulmonary veins isolation



(c). Atriaclip applied. (d).mammary artery harvested endoscopically. (e). Lima to LAD anastomosis performed through left mini thoracotomy.

RESULTS

Intraoperative TOE excluded any left atrial appendage clot. Following double lumen intubation on single lung ventilation, we access the right side of the chest through two 5-mm ports and one 12-mm port for a 3D-camera (Aesculap EinsteinVision,Brown). The pericardium was opened, the right pulmonary veins were encircled and the roof and inferior ablation lines performed (atricure bipolar and monopolar ablation system). The pericardium was closed and we approached the left side of the chest. Through a specular port access setting the pericardium opened, left pulmonary veins were encircled and the patient cardioverted into sinus rhythm. The left atrial appendage was excluded using a 45mm Atriaclip. The left internal mammary was then harvested using the same ports with an harmonic scalpel and the LAD identified. Left anterior minithoracotomy was performed and the LAD was exposed, 1.5mm shunt inserted and the LIMA anastomosed to this vessel with 7/0 prolene. Patient was extubated and returned to Recovery in a stable condition. Postoperative period was mainly uncomplicated and patient discharged 5 days after the procedure.

CONCLUSIONS

We demonstrate that minimally invasive CABG and thoracoscopic AF ablation can be performed as a combined procedure safely and successfully in selected cases.

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