Letter to the Editor

Surgical approach for isolated aortic valve replacement with patent coronary grafts

Salvatore Lentini a,*, Sossio Perrotta b, Roberto Gaeta a
a Cardiac Surgery Unit, University Hospital, University of Messina, Messina, Italy
b Department of Cardiothoracic Surgery, Sahlgrenska University Hospital, Göteborg, Sweden

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We read with interest the paper of Khaladj and co-workers [1]. The authors performed AVR through redo full sternotomy on 39 patients with still patent coronary grafts (30 LIMA grafts). On the basis of their results the authors showed that high risk patients can be operated with lower risk than anticipated by EuroSCORE risk stratification. They conclude that: 'old fashioned surgical approach should still be considered the gold standard of treatment for high risk AVR'.

We would like to analyse two aspects:

(A) This report is a retrospective study analysing patients who underwent aortic valve replacement as a redo operation during a period of 12 years. From a total of 349 patients, a subgroup of 39 with patent grafts was retrospectively analysed. Now, the point is that in this series we analyse just the patients who received surgery. We do not know if other patients needing the same operation in the same period of time were turned down for surgery because they were considered at high risk. Risk can be either for redo operation, or for comorbidities. A prospective study comparing standard surgery and percutaneous alternatives for high risk redo patients in need of AVR, would have a stronger statistical weight.

(B) We understand that expert technical skills are important in the outcome of those particular patients, and we congratulate the authors. However, we would like to add something on the adopted technique. The authors used a full re-sternotomy. The authors who are aware of the risks of a re-sternotomy, focus on the importance of a preoperative CT scan for proper operative planning, in order to avoid injury to bypass grafts, native coronary vessels, or the right ventricle during re-sternotomy. We believe that in experienced hands, those risks may be reduced; however, we could further reduce them. For example, the use of a minimal invasive technique in those kind of patients may be of help, in particular an upper J ministernotomy with transversal sternal incision on the third or fourth right intercostals space. During AVR, there is no need to expose the right ventricle, or the left side of the heart near the pulmonary trunk. Therefore with a J sternal incision, just the right side of the chest is split on one side only. This will allow central arterial cannulation and right atrial cannulation. The right ventricle is not exposed, therefore decreasing the risk of adhesions dissection. The patent LIMA will be left undisturbed on the left side of the chest. There is actually no need to isolate and clamp the LIMA during the aortic cross-clamp time. Different types of myocardial protection may be used with this technique, such as a continuous antegrade coronary blood perfusion or other types of cardioplegia on the surgeon preference. Our group has used this particular minimal invasive approach in 18 patients with patent LIMA with good results. This may be another option to further reduce surgical risk.

Reference


* Corresponding author. Address: UOC Cardiachirurgia, Policlinico G Martinino, Università di Messina, Viale Gazi, 98100 Messina, Italy. Tel.: +39 090 2217086; fax: +39 090 2217086.
E-mail address: salvolentini@alice.it (S. Lentini).
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Reply to the Letter to the Editor

Reply to Lentini et al.
Redo-sternotomy and myocardial protection in patients with patent LIMA-grafts

Nawid Khaladj *, Malakh Shrestha, Axel Haverich, Christian Hagl
Division of Cardiac, Thoracic, Transplantation and Vascular Surgery, Hannover Medical School, Carl-Neuberg-Str. 1, 30625 Hannover, Germany

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We thank Dr Lentini and co-workers for their comments and interest in our work [1].

Our retrospective study was performed in patients who were considered to have a high surgical risk for aortic valve replacement (AVR) due to the patent (LIMA) graft after previous coronary artery bypass grafting (CABG) [2]. Besides the question of the value of scoring systems, the manuscript has been focused on the technical aspects of our approach [3].

With great interest we have read the remarks of our colleagues concerning their technique of a partial upper J sternotomy in those cases. We agree that this may be an elegant option in patients with patent bypass grafts [1]. Since the partial sternotomy has become increasingly popular in the last few years, surgeons are now more familiar with this approach, even in redos.

The other important issue concerning myocardial protection has also been addressed by Dr Lentini. In this context it may be beneficial to avoid cross-clamping of the LIMA, which may cause clamping injury. To avoid damage to the heart this approach can be combined with hypothermia.