

Whatever happens, two mammary is better than one

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June 28, 2021

Abstract

It is well known that the left internal mammary artery (LIMA) should be the first conduit of choice. Similarly, especially in patients younger than 70 years, other conduits should be search among arterial grafts such as right internal mammary artery (RIMA) or radial artery (RA). If the RA can be harvested in the meanwhile of LIMA harvesting without time consuming, it is well established that former one has to be grafted only on presence of a good run-off. One of the main criticisms moved to the use of RIMA are linked to technical difficulties in its harvesting it. Edgar Aranda-Michel and coworkers tried to answer to the age-old question is “RIMA has to be used in situ or free-graft?” In a retrospective study on 667 patients (442 had free RIMA and 245 had free RIMA) that were also matched through propensity analysis (202 patients per group), they did not find any differences between the two groups in the major outcomes, including heart failure specific readmissions. This finding is consistent with the literature, hence the take-home message is whatever happens, two mammary is better than one.

Whatever happens, two mammary is better than one

Double mammary is better than one

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No authors declare conflict of interest

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Abstract

It is well known that the left internal mammary artery (LIMA) should be the first conduit of choice. Similarly, especially in patients younger than 70 years, other conduits should be search among arterial grafts such as right internal mammary artery (RIMA) or radial artery (RA). If the RA can be harvested in the meanwhile of LIMA harvesting without time consuming, it is well established that former one has to be grafted only on presence of a good run-off. One of the main criticisms moved to the use of RIMA are linked to technical difficulties in its harvesting it.

Edgar Aranda-Michel and coworkers tried to answer to the age-old question is “RIMA has to be used in situ or free-graft?” In a retrospective study on 667 patients (442 had free RIMA and 245 had free RIMA) that were also matched through propensity analysis (202 patients per group), they did not find any differences between the two groups in the major outcomes, including heart failure specific readmissions. This finding is consistent with the literature, hence the take-home message is *whatever happens, two mammary is better than one*.

Coronary artery bypass grafting (CABG) is the most commonly performed surgery on the heart up to these days. Nevertheless, there are still many controversies on what is best way to perform it. It is well known that the left internal mammary artery (LIMA) should be the first conduit of choice. Similarly, especially in patients younger than 70 years, other conduits should be search among arterial grafts such as right internal mammary artery (RIMA) or radial artery (RA) [1-3].

However, one of the main criticisms moved to the use of RIMA are linked to technical difficulties in its harvesting it. Indeed, some authors advised to start using RA, and only after gaining enough experience with it, surgeons can move to RIMA grafting [3].

But, is it fully true? If the RA can be harvested in the meanwhile of LIMA harvesting without time consuming, it is well established that former one has to be grafted only on presence of a good run-off (i.e. severe target coronary stenosis, wide vessel territory, no myocardial infarction) [4]. On the other hand, RIMA should preferably be harvested in a skeletonized fashion, to decrease the risk of sternal wound infection [5], and this is surely more technically demanding. Moreover, some authors recommend to use RIMA in situ at the beginning, since it could be easier than perform Y or T graft [5]. Hence, the age-old question is “RIMA has to be used in situ or free-graft?”

Edgar Aranda-Michel et al.[6] tried to answer to this question by performing a retrospective study on 667 patients (442 had free RIMA and 245 had free RIMA) that were also matched through propensity analysis (202 patients per group). They did not find any differences between the two groups in the major outcomes, including heart failure specific readmissions. They only found that the an in-situ RIMA anastomosis was protective against heart failure readmission, even if the authors [6] blame a possible bias of selection, in which the free RIMA were initially more commonly used in more ischemic heart. Indeed, the results is lost when propensity match analysis is applied.

Their results are in line with some previously published literature. Di Mauro et al.[7] also performed a propensity analysis and found no differences between the configuration of RITA. Nevertheless, other authors [8] suggest the opposite, meaning that a free RITA gave worse long term results regarding cardiovascular mortality. They suggested that an additional anastomosis might be responsible, by causing a drop of pressure at the distal anastomosis because of a longer arterial configuration, especially in case of Y assembly.

In such a complicated scenario, Edgar Aranda-Michel et al.[6] provided a further piece of evidence in a

field where lacks standardization, little experience and fear of wound infections [9-10] are limiting the use of RITA. Hence, the study by Edgar Aranda-Michel et al.[5] might encourage younger surgeons to embrace the use of RITA, having the confidence to use it both in-situ and as a free graft. Of course, attention must be taken to the site of the anastomosis: it is better to avoid a Y graft to two different territories (left vs right coronary) because of the different driving pressures and for sure further studies are needed to understand the best application of CT Scan and Coronary angiography, to get as many information as possible on the real amount of stenosis.

Indeed, the danger of the Y graft is also related to a coronary functional reserve that is perceived lower than actually is [11]. Gaudino et al [12] performed an intra-operative flowmetry study, showing as Y graft is more than enough to assure the appropriate flow in each branch.

So why should we read the paper by Edgar Aranda-Michel et al.[6]? It elegantly demonstrates the absence of difference between two different configuration of RITA, overcoming the doubt of many surgeons on the use of RITA. Hence, the take-home message is *whatever happens, two mammary is better than one*.

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