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<http://dx.doi.org/10.1016/j.rec.2015.02.017>

The Use of Coronary Artery Bypass Graft in our Setting. Are We Following the Recommendations of the Clinical Guidelines?



Utilización de la cirugía de revascularización coronaria en nuestro medio. ¿Seguimos las recomendaciones de las guías?

To the Editor,

Coronary artery bypass graft (CABG) is the treatment of choice in certain clinical and anatomical contexts in coronary artery disease, as described in clinical practice guidelines, including those of the European Society of Cardiology, which has been adopted by the Spanish Society of Cardiology.¹

The aim of this study was to analyze the number of patients referred for CABG in our setting, determine the rate of interventions per head of population, compare the rate obtained with other rates in Spain, and appraise the degree of compliance with the recommendations of the clinical practice guidelines.

To achieve this, we determined the number of patients referred for CABG by our unit between January 1, 2012 and October 31, 2013, computed the number of patients treated per million inhabitants in our region, and compared these results with the situation in other parts of the country. Finally, we analyzed the number of patients who should have been referred for CABG according to the recommendations of the guidelines. Our unit is the provincial referral center for cardiac catheterization and has a catchment area of 630 000 inhabitants.

During the study period, severe coronary disease was diagnosed in 1409 patients. These patients' therapeutic management is shown in the Figure. Of 75 referrals, 44 underwent surgery (58.7%), 27 (61%) underwent isolated CABG, and the remainder underwent

combined CABG and valve replacement. This corresponds to 38.1 and 23.3/million inhabitants per year for combined surgery and isolated CABG, respectively. Thirty-one patients did not undergo surgery because they had died, had refused to undergo surgery, or because the cardiac surgeon did not consider them suitable for surgery, among other reasons.

The clinical profile (Table) of the 42 patients referred for isolated CABG was absence of high surgical risk and high SYNTAX score (chronic occlusions, trunk disease and/or multivessel disease with multiple lesions). Referral was generally decided upon after consultation between the cardiac catheterization specialist and the clinical cardiologist.

According to the registry of interventions of the Spanish Society of Cardiovascular Surgery, 7149 patients underwent CABG in Spain in 2011 (154/million inhabitants per year); of these, 5010 underwent CABG only (111/million inhabitants per year) and the remainder combined surgery.² In Germany in the same year, 55 299 patients underwent surgery (680/million inhabitants per year) and 41 976 underwent CABG only (516/million inhabitants-year).³ In the United States in 2010, isolated CABG was performed in 219 000 patients (697/million inhabitants per year).⁴

Because these data are influenced by the prevalence of the disease in different geographical areas, we analyzed the ratio between percutaneous revascularization and CABG. At our center, this ratio was 44.7 for isolated CABG and 24.7 for combined surgery. According to the Spanish Cardiac Catheterization Registry, 63 202 patients underwent percutaneous revascularization in 2011, giving a percutaneous revascularization/CABG ratio of 12.6 for isolated CABG and 8.8 for combined surgery.⁵ In the United States in 2010, the percutaneous revascularization/CABG ratio was 2.2.

Patients with multivessel disease are a heterogeneous group and it is difficult to generalize strategies;⁶ nevertheless, the clinical

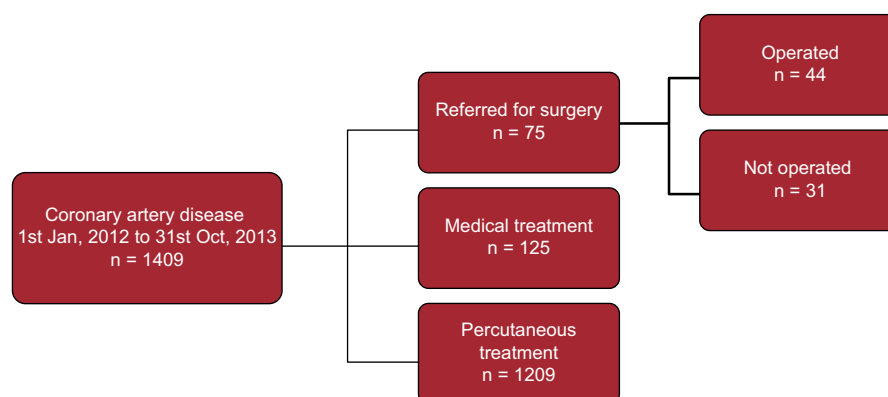


Figure. Therapeutic management of patients diagnosed with coronary artery disease.

Table

Clinical Profile of Referred Patients Who Underwent Surgery

	Referred	Operated
Patients	75 (3.4/month)	44 (2/month)
Men	62 (82.7)	37 (84.1)
Age (y)	68.15 (43–84)	66.48 (43–82)
Isolated coronary artery bypass graft	42 (56)	27 (61.3)
Systolic dysfunction (LVEF < 35%)	19 (25.3)	8 (18.2)

LVEF, left ventricular ejection fraction.

Values are expressed as no (%) or mean (range).

practice guidelines of the European Society of Cardiology¹ clearly state that CABG is indicated in diabetic patients with disease in 2 or more vessels (class 1, level A). The number of patients who met this criterion in our study and who, according to the recommendations, were candidates for CABG as the first therapeutic option, was 287 (20.3%). CABG should also be considered in other anatomical contexts, such as main artery disease and multivessel disease with complex SYNTAX score, etc.

We believe that the results of this study are consistent with standard practice in Spain; while our data have the limitation of being from a single center, and one that does not have a cardiac surgery department, they indicate that CABG is used sparingly and that there is a lack of adherence to some of the recommendations of the European Society of Cardiology clinical practice guidelines on coronary revascularization, which have been adopted by the Spanish Society of Cardiology. Even if the comparison between our data and the general situation in Spain and other countries should not be considered rigorous because it relied on data from voluntary registries and did not include patients who, despite residing in our catchment area, were not treated at or referred from our center, the available information indicates that CABG is used to a lesser extent in Spain, and probably with significant regional differences.

Scientific societies for cardiology and cardiac surgery should appraise this situation, which, among other consequences, hampers cardiac surgeons' ability to acquire and maintain new

skills. If indeed there are specific circumstances that advise against applying the European guidelines in Spain, then we should develop our own national guidelines. Otherwise, we need to determine the causes that have created and continue to promote this attitude and develop measures to correct them.

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Available online 2 May 2015

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Switch From a Long-term to a Short-term Ventricular Assist Device as a Bridge to Heart Transplantation



Cambio de dispositivo de asistencia ventricular de larga duración a dispositivo de corta duración como puente al trasplante cardíaco

To the Editor,

Despite the success of the Spanish heart transplant program, in recent years the number of optimal donors has diminished, leading to longer waiting times and an increase in urgent heart transplantation (HT).¹

Patients undergoing urgent transplantation have worse survival and therefore it is recommended that their clinical status be improved by the use of ventricular assist devices. Currently, 15% of patients in Spain are bridged to HT with ventricular assist devices. Because waiting times are below 6 months for an elective HT and

less than 1 month for urgent HT,¹ most patients can be bridged with short- or mid-term ventricular assist devices. The Berlin Heart EXCOR® (Berlin Heart AG, Berlin, Germany) left ventricular assist devices (LVAD) are a common choice.

We report 2 cases in which an EXCOR® LVAD was replaced by a short-term continuous flow ventricular assist device CentriMag® (Thoratec Corp, Pleasanton, California, United States) as a bridge to transplantation because of thromboembolic complications.

The first case was a 55-year-old man with ischemic dilated cardiomyopathy, who underwent EXCOR® implantation as a bridge to HT candidacy due to irreversible severe pulmonary artery hypertension. Ten days after implantation, while transitioning from heparin to acenocoumarol (international normalized ratio [INR] of 2) and aspirin 100 mg, he developed a transient ischemic attack. On day 17, with an INR of 3, a red thrombus was seen in the sinuses of the polyurethane valves (PUVs). Dipyridamole 300 mg/d and heparin were added with thrombus resolution. Aggregometry showed arachidonic acid inhibition of 80%. Clopidogrel 75 mg/d was added because of persistent white fibrin deposits. On day 40, a right heart catheterization showed reversibility of the pulmonary