

Hélcio Giffhorn<sup>1</sup>

## Postoperative complications of coronary artery bypass graft in elderly patients

*“If wrinkles must be written on our brows, let them not be written upon the heart. The spirit should never grow old.” James Garfield*

Masters, Center of Biological and Health Sciences of the Pontifícia Universidade Católica do Paraná – PUC Paraná – Curitiba (PR), Brazil.

Comments on the work “Postoperative complications of coronary artery bypass graft in elderly patients” by Dr. Ronaldo Vegni et al., published in volume 20(3) of the “Revista Brasileira de Terapia Intensiva”.<sup>(1)</sup>

The definition of elderly is based on the individual’s chronological age and according to the World Health Organization (WHO) would be above 60 years. There is no worldwide consensus because, for the African countries’ population, age for the elderly to be taken into consideration would range from 50 to 55 years. Developed countries consider those above 65 years as elderly. Lack of consensus about when senior citizenship begins (elderly) leads to a division of population studies into age brackets above 60 years.

The objective of Vegni et al.<sup>(1)</sup> work was to observe complications in elderly patients (groups II, III and IV) submitted to coronary artery bypass graft (CABG). However conclusion of the summary cites only those above 80 years of age as presenting higher morbidity/mortality or would it be the oldest, those of groups III and IV?

The main objective of the work was assessment of patients submitted separately to CABG? Citing the editorial by Alvarez (2004)<sup>(2)</sup> when elective CABG was associated to valve replacement (VR), mortality was significantly higher (2 to 4% vs. 10 to 14% for aortic VR).

Manipulation of the ascending aorta, aortic clamping and use of cardiopulmonary bypass (CPB) may bring about more complications at postoperative in high risk patients, especially the older.<sup>(3)</sup> When assessing casuistry regarding the 269 patients, all were submitted to CABG using CPB. But not all were submitted to concomitant VR. Was there some reason for not using off-pump CABG in any of the cases?

The work by Bridges (2003) assessed operated patients, over 90 years of age.<sup>(4)</sup> Risk factors were need for mitral valve replacement, emergency surgery, smaller percentage of ejection fraction and preoperative functional class and longer CPB time. Factors for higher morbidity/mortality were renal failure, mechanical ventilation and intensive care unit length of stay, use of intraaortic balloon pump and arterial failure (peripheral, cerebral).

Surgical trauma is the leading factor for inflammatory response.<sup>(5)</sup> Some inflammatory markers (complement activation factor, TNF- $\alpha$ , IL-8, IL-10, elastase) may increase when ECC is used, but return to a value near that of surgery without CPB at immediate postoperative. Afterwards, markers equalize with time.

Received from the Center of Biological and Health Sciences of the Pontifícia Universidade Católica do Paraná – PUC Paraná – Curitiba (PR), Brazil.

Submitted on December 16, 2008

Accepted on December 22, 2008

### Author for correspondence

Hélcio Giffhorn

Rua Gastão Câmara, 694 - Ap.1206

CEP: 80730-300 - Curitiba (PR), Brazil.

E-mail: hgiffhorn@uol.com.br

---

**REFERENCES**

1. Vegni R, Almeida GF, Braga F, Freitas M, Drumond LE, Penna G, et al. Complicações após cirurgia de revascularização miocárdica em pacientes idosos. *Rev Bras Ter Intensiva*. 2008;20(3): 226-34.
2. Alvarez JM. Cardiac surgery in octogenarians and beyond. *Med J Aust* . 2004;181(4):181-2.
3. Lima R, Diniz R, César A, Vasconcelos F, Gesteira M, Menezes A, et al. Revascularização miocárdica em pacientes octogenários: estudo retrospectivo e comparativo entre pacientes operados com e sem circulação extracorpórea. *Rev Bras Cir Cardiovasc*. 2005;20(1):8-13.
4. Bridges CR, Edwards FH, Peterson ED, Coombs LP, Ferguson TB. Cardiac surgery in nonagenarians and centenarians. *J Am Coll Surg*. 2003;197(3):347-56; discussion 356-7.
5. Biglioli P, Cannata A, Alamanni F, Naliato M, Porqueddu M, Zanobini M, et al. Biological effects of off-pump vs. on-pump coronary artery surgery: focus on inflammation, hemostasis and oxidative stress. *Eur J Cardiothorac Surg*. 2003;24(2):260-9.