Preoperative anaemia is a negative factor in aortic valve surgery

Hui Taoa,b, Kai-Hu Shiab,* and Jing-Jing Yangc,d

a Department of Cardiothoracic Surgery, The Second Hospital of Anhui Medical University, Hefei, China
b Cardiovascular Research Center, Anhui Medical University, Hefei, China
c School of pharmacy, Anhui Medical University, Hefei, China
d Department of Pharmacology, The Second Hospital of Anhui Medical University, Hefei, China

* Corresponding author. Department of Cardiothoracic Surgery, The Second Hospital of Anhui Medical University, Furong Road, Hefei, Anhui Province230601, China. Tel: +86-551-63869531; fax: +86-551-63869531; e-mail: ayskh3@hotmail.com (K.-H. Shi).

Received 3 April 2013; accepted 18 April 2013

Keywords: Preoperative anaemia • Aortic valve replacement • Mortality • Morbidity

The impact of anaemia on patients undergoing aortic valve surgery is poorly understood. Anaemia is associated with aortic valve surgery. A recent article by Elmistekawy et al. [1] demonstrated that preoperative anaemia is a common finding in patients undergoing aortic valve surgery and is an important and potentially modifiable risk factor for postoperative morbidity and mortality. This analysis suggests that anaemia may serve as a negative factor in aortic valve surgery.

Other studies have been carried out on this topic. Major surgery in a patient with pancytopenia might be associated with increased surgical risks, particularly for bleeding and infection. Halliday et al. [2] demonstrated that, in a logistic regression model, coexisting vascular disease, diabetes and preprocedural anaemia significantly affected the incidence of life-threatening or major bleeding. Furthermore, Kitamura et al. [3] have shown that postoperatively, a patient developed paravalvular leak and haemolytic anaemia, subsequently undergoing reoperation. Also, Van Mieghem et al. [4] found that baseline anaemia is common in patients undergoing transcatheter aortic valve implantation, forecasts a need for more red blood cell transfusions and is associated with increased 1-year mortality. Moreover, hypercoagulative states have been observed in patients with alpha-thalassaemia as beta-thalassaemia; therefore, special attention should be taken in perioperative anticoagulation therapy. Kawase et al. [5] indicated that haemolytic anaemia with aortic stenosis resolved by urgent aortic valve replacement.

However, Lee and Lee [6] reported a successful cardiac surgery with extracorporeal cardiopulmonary bypass in a patient with severe aortic valve insufficiency and concomitant idiopathic aplastic anaemia.

In summary, these findings suggest that anaemia may be a negative factor in aortic valve surgery. Therapeutic agents targeting anaemia might result in innovative new therapies for aortic valve surgery. Finally, we greatly enjoyed reading the article by Elmistekawy et al. and believe that the prevention and treatment of anaemia may be useful in aortic valve surgery.

Funding

This project was supported by Anhui Provincial Natural Science Foundation (KJ2011A175).

REFERENCES