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http://dx.doi.org/10.1016/j.jtcvs.2013.07.085

B-TYPE NATRIURETIC PEPTIDE IN CHILDREN UNDERGOING PEDIATRIC CARDIAC SURGERY: JUST A MARKER OF DISEASE SEVERITY STRONGLY RELATED TO AGE OR MUCH MORE?

To the Editor:

We read with interest the article of Radman and colleagues[1] entitled, "The effect of preoperative nutritional status on postoperative outcomes in children undergoing surgery for congenital heart defects in San Francisco (UCSF) and Guatemala City (UNICAR)," recently published in the Journal. We agree with Radman and colleagues[1] that body fat mass and acute and chronic malnourishment are important determinants of worse outcome in children undergoing surgery[1-4]; the relationship of these factors to preoperative B-type natriuretic peptide (BNP) values, however, merits further consideration.

Actually, Radman and colleagues[1] included in their study a wide spectrum of ages (interquartile range, 3.2-47.1 months) and congenital heart diseases (from simple septal defects to univentricular heart). It has been widely demonstrated that preoperative BNP values as well as postoperative BNP variations should be interpreted as the consequences of 2 major factors: disease severity and age.[2,3] The influence of these variables is particularly remarkable in the neonatal and infant setting, because neonatal cardiac surgery usually carries a higher surgical risk as a result of the severity of the disease[2-4] and many maturational variations in endocrine function within the first month of life.[2,3] The cardiac natriuretic peptide system is a relevant component of a complex and integrated network that includes the endocrine, nervous, and immune systems.[5] For the same age and disease severity, a huge number of biologic substances, environmental factors, and physiologic parameters contribute to BNP response[5]; body fat mass and malnutrition are only 2 factors among these. Unfortunately, the small sample size (only 71 patients) of the study by Radman and colleagues[1] does not allow a risk stratification analysis that includes all these parameters. In particular, low body fat mass and malnutrition, frequently observed in children with more severe cardiac defects,[1,4] are important factors that contribute to the severity of the disease state and in turn to the rise in BNP values.

In conclusion, recent data support the use of BNP as a useful adjunct prognostic and disease severity marker in children undergoing cardiac surgery. Both preoperative values and postsurgical variations in BNP should be interpreted first according to age and disease severity[2,3] and only secondarily as the consequence of additional factors, including malnutrition and body fat mass.

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http://dx.doi.org/10.1016/j.jtcvs.2013.07.086

TAVI WITHOUT SURGICAL STANDBY: IS HISTORY REPEATING ITSELF? A WORD OF CAUTION

To the Editor:

Current practice guidelines require that transcatheter aortic valve implantation (TAVI) be performed by a heart team composed of interventional cardiologists and surgeons in a hybrid operating room.[1] The occurrence of a case, treated in a hospital without cardiac surgery on site, in which the implanted prosthesis migrated into the left ventricle and required surgical removal, prompted this report.

A 69-year-old woman underwent TAVI in a facility without on-site cardiac surgery. Shortly after transfemoral implantation, the prosthesis