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Editorial

H-Fabp as a Novel Cardiac Biomarker: A New Hope?

Radmilo Janković[1,2]* and Danica Marković[1]

[1]*Center for Anesthesiology and Reanimatology, Clinical center in Niš, Serbia*
[2]*Department for Anesthesia and intensive care, School of Medicine, University of Niš, Serbia*

***Corresponding Author:** Radmilo Janković, Center for Anesthesiology and Reanimatology, Clinical center in Niš, Serbia.

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Cardiac biomarkers are playing a great role in the preoperative preparation and prognosis of postoperative cardiovascular complications in patients who are preparing for non-cardiac surgeries [1,2]. The quest for the perfect biomarker, which would be used isolated in practice and which would clearly indicate the high risk patients, lasts for decades. It is considered for now that a "multi-marker approach" is the most suitable and accurate, but new biomarkers are being examined with the aim to enable a more accurate and faster prognosis [2,3]. Preclinical and clinical trials are underway and there is a group of novel cardiac biomarkers that includes: cTnI, cTnT, microRNA (mrRNA), heart-type fatty acid binding protein (H-FABP), pro-adrenomedullin (PAMP), Survivin, etc.

H-FABP is present in high concentrations in myocardial tissue [2,4,5]. After the ischemic myocardial tissue damage H-FABP can be found in blood 1-3 after the onset of chest pain, it is reaching a peak during 6-8h, and returns to normal values after 24-30h. The diagnostic value of this biomarker is very limited if there is evidence in patient's history of renal insufficiency and muscle tissue diseases [7].

From an editorial standpoint, there is a large number of research about the significance of H-FABP as a novel cardiac biomarker and it is considered that it will show a far greater significance and specificity when compared to other biomarkers. It is also considered that examination of this and other highly specific biomarkers simultaneously would lead to far more accurate prediction of cardiovascular complications after non-cardiovascular procedures.

The starting point for the inclusion of H-FABP in research is certainly the fact that it represents the most specific biomarker next to high sensitive troponin (hs-cTnT) in patients with chest pain in primary medical care [8,9,11]. Diagnostic sensitivity of H-FABP has shown an even 93.1% higher that the sensitivity of the CK-MB and cTnT in practice [10].

Hoffmann., *et al*. have suggested that H-FABP in combination with NT-proBNP impro ves the specificity in the diagnosis of acute heart failure [6], while research have proved its higher specificity when compared to cTnT when it comes to myocardial tissue damage in patients with chronic heart failure [9].

It has been proved on several occasions that the interpretation of H-FABP is successful in combination with TnT in patients with suspected acute coronary syndrome and chronic heart failure [12,5]. Some research point out that H-FABP has even higher specificity that TnT in the first 6 hours after acute myocardial damage; however its specificity decreases after 6 hours [5,13-16].

O'Donoghue., *et al*. have shown that increased H-FABP is associated with the higher risk of cardiovascular events, onset of heart failure and death in the next 10 months after acute coronary syndrome. Moreover, it has been shown that it is independent of other risk factors and biomarkers [4].

Research show that serial measurement of H-FABP in the first 24 hours after the onset of acute myocardial infarction symptoms may detect perioperative acute myocardial infarction, detect reinfarction if it occurs within 10h after symptom onset and identify patients susceptible to reperfusion strategies [7].

It is evident that a "multi-marker strategy" is highly present in contemporary clinical practice, however further extensive research in order to find new, more accurate biomarkers, are needed. The results so far have given encouraging results, with H-FABP in the focus.

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