Letter to Editor

Comments on the article: Ancient cardiac myxomas – another point of view in the light of tetraspanins

Ireneusz Haponiuk[1,2]

[1]Department of Pediatric Cardiac Surgery, Mikolaj Kopernik Hospital in Gdańsk, Poland
[2]Chair of Physiotherapy, Faculty of Rehabilitation and Kinesiology, Gdańsk Academy of Physical Education and Sport, Poland

The authors present a series of myxoma cases with the aim of exploring the thrombogenicity that follows from expression of peculiar thrombosis-favoring proteins in tumor tissues [1]. The paper contains some new views on the problem of local remission and peripheral thromboembolic complications. The authors tried to explore the significance of transmembrane tetraspanins CD9 and CD63 found in cardiac myxomas in the context of endocardial thrombosis, which can often accompany surgical treatment.

From the traditional point of view, myxomas are primary non-cancerous tumors, which usually have an irregular shape and a gelatinous consistency. The majority of myxomas (75%) originate in the left atrium, while 15-20% arise from the right atrium. Despite their histology, the left and the right heart myxomas are somewhat different because of the consequences of peripheral material migration [2].

They characteristically arise from the interatrial septum close to the border of the fossa ovalis, usually originate from a pedicle and can move freely with the blood flow. When oscillating, myxomas can move respectively into the mitral or tricuspid valves, and block and unblock the valves continuously. In its natural history the tumor can damage the valves with full-spectrum atrioventricular insufficiency. The pathology can occur in all age groups, between the third and sixth decades, mostly in women.

Myxomas, like other isolated noncancerous primary cardiac tumors, can be successfully removed by surgery. With regard to the surgical resection strategy, the technique should follow the rules of gentle preparation and 'oncologic sterility'. The phenomenon of local recurrent growth and detachment of fragments from the myxoma surface that may move to other organs, clog blood vessels in these locations and cause severe complications is one of the main risk factors of surgical interventions. The obstruction of a cerebral artery vessel can cause a stroke [3, 4], while obstruction of a pulmonary bed can cause pulmonary embolism [4]. Case reports of other arterial emboli, including coronary arteries, are known [5]. Anemia with low platelet count as a result of platelet activation and formation of clots may suggest severe infection in such cases.

The recurrence of a local tumor was observed in a patient who underwent primary RV tumor excision with subsequent tricuspid vale replacement with a bioprosthesis [6]. Reported rapid biological prosthesis deterioration coupled with a giant RV multiple myxoma early after surgical tumor excision with implantation of the valve highlights the requirement for short-term follow-up in patients with multiple myxoma, as well as the need for additional markers to monitor the risk of recurrence.

The article gives some new valuable quidelines to contemporary clinical practice when dealing with patients with myxomas. The efforts to explore the mechanism of thromboembolic complications in patients who have undergone surgical resection of cardiac myxomas, rather than traditional "dissemination" of the tumorous tissue, can supplement modern treatment protocols. Despite the lack of precise analysis of patient data with additional risk factors that could promote thromboembolic complications in the group, some more aggressive anticoagulation in the peri-operative period seems to be reasonable in every individual referred for surgery due to a benign cardiac tumor [7].

I would like to congratulate the authors, who performed an original, cooperative, multicenter and long-lasting study. I shall follow the authors' future investigations in the field of cardiac tumors and tetraspanins, which could provide new clinical data as well as possible modification of comprehensive therapy.

The author declares no conflict of interest.

References

1. Lewitowicz P, Leszczyńska U, Horecka-Lewitowicz A, et al. Ancient cardiac myxomas – another point of view in the light of tetraspanins. Pol J Pathol 2016; 67: 69-77.
2. Haponiuk I, Skalski J, Wronecki K. Guzy serca u dzieci. In: Kardiochirurgia dziecięca. Skalski J, Religa Z (eds.). Vol. I. Wydawnictwo Naukowe Śląsk, Katowice 2004; 424-436.
3. Babs Animashaun I, Akinseye OA, Akinseye LI, Akinboboye OO. Right atrial myxoma and syncope. Am J Case Rep 2015; 16: 645-647.
4. Zheng Z, Guo G, Lei L, et al. Left atrial myxoma with versus without cerebral embolism: length of symptoms, morphologic characteristics, and outcomes. Tex Heart Ins J 2015; 41: 592-595.
5. Stiver K, Bittenbender P, Whitson B, Bush CA. Left atrial myxoma causing a coronary steal: an atypical cause of angina. Tex Heart Ins J 2015; 42: 270-272.
6. Jagielak D, Jaguszewski M, Ciećwierz D, et al. Rapid valve prosthesis deterioration coupled with recurrent giant myxoma in a young asymptomatic adult. Kardiol Pol 2014; 72: 208.
7. He D, Zhang Y, Liang L, et al. Risk factors for embolism in cardiac myxoma: a retrospective analysis. Med Sci Monit 2015; 21: 1145-1154.

Address for correspondence

Ireneusz Haponiuk MD PhD
Department of Pediatric Cardiac Surgery,
St. Wojciech Hospital Gdańsk-Zaspa
Al. Jana Pawła II 50, 80-462 Gdańsk
tel. +48 58 768 48 81
e-mail: ireneusz_haponiuk@poczta.onet.pl