

# Repetitive stent thrombosis: another manifestation of Kounis syndrome?

Nawracająca zakrzepica w stencie: kolejny objaw zespołu Kounisa?

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We have read with interest the clinical vignette by Ramotowski et al. [1] concerning a 59-year-old male patient who had suffered ST-elevation myocardial infarction (STEMI) followed by two consequent acute coronary syndromes (ACS) because of stent thrombosis. The patient had a history of allergy to aspirin and bronchial asthma and developed bronchospastic reaction after aspirin administration. Due to repeated episodes of stent thrombosis, the antiplatelet therapy was switched from clopidogrel to ticagrelor, subsequently to prasugrel, and finally again to ticagrelor. The authors correctly anticipated that patients with allergy to aspirin, who need stent implantation, require careful investigation in each case and focused their attention to residual dissection or stent malapposition. However, they did not refer to hypersensitivity to stent components in association with hypersensitivity to aspirin, bronchial asthma, and Kounis-hypersensitivity-associated ACS.

Aspirin-induced asthma was described by Samter and Beers [2], and the triad of asthma, aspirin sensitivity, and nasal polyps is referred to as Samter's triad [2]. Nonsteroidal anti-inflammatory drug-exacerbated respiratory disease and other allergic reactions have been emphasised in a position paper by a panel of experts from the European Academy of Allergy and Clinical Immunology Task Force on non-steroid anti-inflammatory drug hypersensitivity [3].

There are also supporting reports in the literature associating the Samter-Beer triad with Kounis syndrome. For example, a patient with Samter-Beer triad presented with STEMI infarction complicated with cardiac arrest due to multi-vessel coronary artery spasm secondary to aspirin anaphylaxis [4], and a case of a young woman with Samter-Beer triad presented with recurrent cardiac arrests secondary to coronary vasospasm, supportive of type I variant of Kounis syndrome following non-steroid anti-inflammatory drug ingestion [5].

Stent thrombosis associated with allergic-mediated inflammatory reaction is a serious manifestation of type III variant Kounis syndrome [6–8]. Although in this patient nasal

polyps were not described, an association of Kounis syndrome with Samter-Beer triad cannot be excluded.

Kounis syndrome should always be considered in patients presenting with ACS and symptoms supportive of an allergic reaction [6]. In the era of invasive treatment of coronary artery disease with wide implementation of coronary stents and bioresorbable scaffolds, the diagnosing of this syndrome and applying appropriate management would lead to favorable outcomes [8].

**Conflict of interest:** none declared

## References

1. Ramotowski B, Żuk A, Budaj A. Repetitive stent thrombosis in a patient with suspected allergy to aspirin and multiple switch between clopidogrel, prasugrel, and ticagrelor. *Kardiologia Pol.* 2017; 75(6): 614, doi: [10.5603/KP.2017.0104](https://doi.org/10.5603/KP.2017.0104), indexed in Pubmed: [28707295](https://pubmed.ncbi.nlm.nih.gov/28707295/).
2. Samter M, Beers RF. Concerning the nature of intolerance to aspirin. *J Allergy.* 1967; 40(5): 281–293, indexed in Pubmed: [5235203](https://pubmed.ncbi.nlm.nih.gov/5235203/).
3. Kowalski ML, Asero R, Bavbek S, et al. Classification and practical approach to the diagnosis and management of hypersensitivity to nonsteroidal anti-inflammatory drugs. *Allergy.* 2013; 68(10): 1219–1232, doi: [10.1111/all.12260](https://doi.org/10.1111/all.12260), indexed in Pubmed: [24117484](https://pubmed.ncbi.nlm.nih.gov/24117484/).
4. Ildayhid AR, Rankin J. Kounis syndrome with Samter-Beer triad treated with intracoronary adrenaline. *Catheter Cardiovasc Interv.* 2015; 86(6): E263–E267, doi: [10.1002/ccd.25960](https://doi.org/10.1002/ccd.25960), indexed in Pubmed: [26257014](https://pubmed.ncbi.nlm.nih.gov/26257014/).
5. Rayner-Hartley E, Chou A, Saw J, et al. A Case of Kounis Type I in a Young Woman With Samter's Triad. *Can J Cardiol.* 2016; 32(10): 1261.e1–1261.e3, doi: [10.1016/j.cjca.2015.12.012](https://doi.org/10.1016/j.cjca.2015.12.012), indexed in Pubmed: [26947537](https://pubmed.ncbi.nlm.nih.gov/26947537/).
6. Chen JP, Hou D, Pendyala L, et al. Drug-eluting stent thrombosis: the Kounis hypersensitivity-associated acute coronary syndrome revisited. *JACC Cardiovasc Interv.* 2009; 2(7): 583–593, doi: [10.1016/j.jcin.2009.04.017](https://doi.org/10.1016/j.jcin.2009.04.017), indexed in Pubmed: [19628178](https://pubmed.ncbi.nlm.nih.gov/19628178/).
7. Tzani G, Bonou M, Mikos N, et al. Early stent thrombosis secondary to food allergic reaction: Kounis syndrome following rice pudding ingestion. *World J Cardiol.* 2017; 9(3): 283–288, doi: [10.4330/wjc.v9.i3.283](https://doi.org/10.4330/wjc.v9.i3.283), indexed in Pubmed: [28400926](https://pubmed.ncbi.nlm.nih.gov/28400926/).
8. Kounis NG, Koniari I, Roumeliotis A, et al. Thrombotic responses to coronary stents, bioresorbable scaffolds and the Kounis hypersensitivity-associated acute thrombotic syndrome. *J Thorac Dis.* 2017; 9(4): 1155–1164, doi: [10.21037/jtd.2017.03.134](https://doi.org/10.21037/jtd.2017.03.134), indexed in Pubmed: [28523173](https://pubmed.ncbi.nlm.nih.gov/28523173/).

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