Although there are no definite diagnostic criteria to differentiate prinzmetal angina from Kounis syndrome, systemic allergic reactions associated with acute myocardial ischemia in a patient should suggest that the patient has Kounis syndrome (2). Are there any signs and symptoms of systemic allergic reactions such as generalized erythema or urticarial rashes in the patient? Also, after clinical stabilization, additional allergy tests, including skin prick test, may be helpful for diagnosis.

I also would like to highlight a specific point in the treatment of the abovementioned patient. In the cases where type 1 Kounis syndrome progresses to acute myocardial infarction with increased cardiac enzymes and troponins, anti-allergic treatment, including administration of H1 and H2 blockers together with corticosteroids combined with classical treatment of acute coronary syndromes, is recommended (3). Also, in patients with non-ST-elevation acute coronary syndromes, dual antiplatelet therapy with aspirin and clopidogrel has been recommended for 1 year over aspirin alone, irrespective of the revascularization strategy and stent type according to the current guidelines (4). However, the utilization of aspirin is controversial because of the underlying anaphylactic reaction in Kounis syndrome. Acetylsalicylic acid can cause allergic reactions and induce anaphylaxis; therefore, the safety of aspirin use in patients with Kounis syndrome is unknown (5). I would like to kindly ask the authors whether there is any specific reason for the treatment of aspirin in this case?

In conclusion, because the use of synthetic cannabinoid is gradually increasing in our country, rapid diagnosis and appropriate treatment in these patients has great importance because of the complex and complicated course of acute coronary syndromes associated with allergic reactions.

Can Ramazan Öncel
Department of Cardiology, Atatürk State Hospital, Antalya-*Turkey*

References

1. İnci S, Aksan G, Doğan A. Bonsai-induced Kounis Syndrome in a young male patient. Anatol J Cardiol 2015; 15: 952-3 [CrossRef]
2. Kounis NG. Kounis syndrome (allergic angina and allergic myocardial infarction): a natural paradigm? Int J Cardiol 2006; 110: 7-14. [CrossRef]
3. Çevik C, Nugent K, Shome GP, Kounis NG. Treatment of Kounis syndrome. Int J Cardiol 2010; 143: 223-6. [CrossRef]
4. Roffi M, Patrono C, Collet JP, Mueller C, Valgimigli M, Andreotti F, et al; ESC Committee for Practice Guidelines. ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). Eur Heart J 2016; 14: 267-315. [CrossRef]
5. Altay S, Çakmak HA, Erer B, Kemaloğlu T, Özpamuk F, Karadağ B. The allergic angina syndrome in naproxen sodium induced type 1 hypersensitivity reaction in an allergic asthmatic young woman: Kounis syndrome. Acta Cardiol Sin 2012; 28: 152-6. [CrossRef]

Address for Correspondence: Dr. Can Ramazan Öncel
Atatürk Devlet Hastanesi, Kardiyoloji Kliniği
Anafartalar Cad., 07040, Antalya-*Türkiye*
E-mail: r_oncel@hotmail.com

DOI:10.14744/AnatolJCardiol.2016.6918

Author`s Reply

To the Editor,

We thank you for the interest in and positive reviews for our case report published in the Anatolian Journal of Cardiology entitled "Bonsai-induced Kounis Syndrome in a young male patient" (1).

The most important step of the diagnosis of Kounis syndrome is determining the presence of allergic symptoms accompanying chest pain. Systemic allergic reaction is manifest with skin, mucosa, respiratory system, cardiovascular system, or gastrointestinal system signs in minutes/hours after exposure to the allergen. The clinical picture is variable in a wide spectrum from mild skin lesions that might be unnoticed to anaphylactic shock. The course of the allergic reaction occurring in this case was chest pain without skin involvement. No skin lesion was encountered in this patient. However, skin lesions may be absent in majority of the cases (2). The patient was questioned and examined for skin lesions; nevertheless, the mild nature of the skin lesions should be considered so that they may be unnoticeable (3). Leukocytosis, eosinophilia, and increased IgE levels were detected in this case, and other tests could not be performed because of technical unavailability. The skin prick test may be helpful in diagnosis; however, its rate of usage is found to be low in the literature (4).

Primary treatment of Kounis syndrome is AKS management and suppression of the allergic reaction. Because the primary mechanism is coronary vasospasm in young and otherwise healthy patients who have no risk factors for coronary artery disease and are considered to have Type I variant Kounis syndrome, the first-line treatment is nitrates and calcium channel blockers. Suppression of allergy by steroids and antihistamines alone may even alleviate coronary vasospasm. AKS management in those patients, on the other hand, is unclear. Debatable applications have been reported, particularly on the antiaggregants. Because aspirin is a basic building block treatment in the management of AKS, we started aspirin (5). However, as you have mentioned, aspirin has the potential to increase the continuing allergic reaction in patients with Kounis syndrome. It may be more suitable to prefer clopidogrel in patients with hypersensitivity to aspirin.

Sinan İnci, Gökhan Aksan[1], Ali Doğan[2]
Departmant of Cardiology, Aksaray State Hospital, Aksaray-*Turkey*
[1]Departmant of Cardiology, Şişli Etfal Education and Tracking Hospital, İstanbul-*Turkey*
[2]Departmant of Cardiology, Faculty of Medicine, Erciyes University, Kayseri-*Turkey*

References

1. İnci S, Aksan G, Doğan A. Bonsai-induced Kounis Syndrome in a young male patient. Anatol J Cardiol 2015; 15: 952-3. [CrossRef]
2. Tok D, Özcan F, Şentürk B, Gölbaşı Z. A case of acute coronary syndrome following the use of parenteral penicillin: Kounis syndrome. Turk Kardiyol Dern Ars 2012; 40: 615-9. [CrossRef]
3. Brown SG. Clinical features and severity grading of anaphylaxis. J Allergy Clin Immunol 2004; 114: 371-6. [CrossRef]
4. Ralapanawa DM, Kularatne SA. A case of Kounis syndrome after a hornet sting and literature review. BMC Res Notes 2014; 7: 867.
5. Roffi M, Patrono C, Collet JP, Mueller C, Valgimigli M, Andreotti F et al; ESC Committee for Practice Guidelines. ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). Eur Heart J 2016; 14: 267-315.

Address for Correspondence: Dr. Sinan İnci
Aksaray Devlet Hastanesi, Zafer Mah., Nevşehir Cad.,
No:117, Aksaray-*Türkiye*
Phone:+90 382 212 35 02
E-mail: doktorsinaninci@gmail.com

Is Turkey a prothrombin gene mutation region similar to the Mediterranean countries?

To the Editor,

Myocardial infarction (MI) is a leading cause of morbidity and mortality worldwide (1). Acute MI generally develops following a critical narrowing of the coronary artery or a narrowing or complete occlusion of the coronary vessel by an acute plaque rupture (2). MI in young adults may be categorized into two groups as normal coronary artery anatomy and coronary artery disease (CAD) accompanied by various etiologies; moreover, conditions associated with hypercoagulopathy play a significant role in the pathophysiology of both groups (3).

We examined 68 patients (aged <45 years) with ACS and 69 healthy controls for hypercoagulable states in our institution between January 2008 and June 2010. We found a statistically significant difference between the groups for factor V Leiden (FVL), whereas there was no statistically significant difference for prothrombin gene mutation (P G20210A).

The two most common reasons of familial thrombophilia are P G20210A and FVL. P G20210A is frequently observed in Southern European countries and most notably in countries that have coast to the Mediterranean (4). Despite conflicting results, some studies have demonstrated that the combination of known risk factors and P G20210A is a risk factor for the development of arterial thrombus and ACS (5). In our study, there was no statistically significant difference between the patient and control groups (2.9% vs. 1.4%, p=0.551). P G20210A was found to be heterozygotic in three (2.2%) among a total of 137 cases. However, in the study by Akar et al. (6), P G20210A prevalence rate in Turkey was reported to be 6.2%, which is similar to the rate in Mediterranean countries; however, this finding is contradictory to our study findings. Despite being a Mediterranean country, Turkey is located right in the middle of three continents and has a distinctive geography. Therefore, FVL mutation prevalence rather than P G20210A may be more frequent, particularly in the Central Anatolian, Eastern Anatolian, and Black Sea Regions, which is similar to that observed in the Northern European countries.

Data regarding the association of FVL mutation with the development of CAD and ACS are conflicting. However, large studies investigating young patients with ACS have reported that FVL mutation was found to be statistically significant (7). Similarly, we found in our study that FVL mutation was statistically significant in the patient group compared with that in the control group (22.1% vs. 5.8%, p=0.006).

In conclusion, patients with ACS carrying FVL mutation might have a role in the pathophysiology of developing ACS. Furthermore, Turkey appears as a FVL mutation region rather than a P G20210A mutation region, which is similar to the Northern European countries, thereby opposing the known current literature. However, further prospective controlled studies in larger patient populations with careful analysis of other risk factors and mutations are required to understand the pathophysiological process of ACS.

Barış Buğan, Erkan Yıldırım, Deniz Torun*, Salih Kozan*, Murat Çelik, Turgay Çelik
Departments of Cardiology and *Medical Genetics, Gülhane Military Medical Academy, Ankara-*Turkey*

References

1. Task Force on the management of ST-segment elevation acute myocardial infarction of the European Society of Cardiology (ESC), Steg PG, James SK, Atar D, Badano LP, Blömstrom-Lundqvist C, et al. ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. Eur Heart J 2012; 33: 2569-619.
2. White HD, Chew DP. Acute myocardial infarction. Lancet 2008; 372: 570-84. [CrossRef]
3. Çengel A, Tanındı A. Myocardial infarction in the young. J Postgrad Med 2009; 55: 305-13. [CrossRef]
4. Nguyen A. Prothrombin G20210A polymorphism and thrombophilia. Mayo Clin Proc 2000; 75: 595-604. [CrossRef]
5. Rosendaal FR, Siscovick DS, Schwartz SM, Psaty BM, Raghunathan TE, Vos HL. A common prothrombin variant (20210 G to A) increases the risk of myocardial infarction in young women. Blood 1997; 90: 1747-50. [CrossRef]
6. Akar N, Mısırlıoğlu M, Akar E, Avcu F, Yalçın A, Sözüöz A. Prothrombin gene 20210 G-A mutation in the Turkish population. Am J Hematol 1998; 58: 249. [CrossRef]
7. Lee R. Factor V Leiden: a clinical review. Am J Med Sci 2001; 322: 88-102. [CrossRef]

Address for Correspondence: Dr. Barış Buğan
Girne Askeri Hastanesi, Kardiyoloji Bölümü
99300, Girne-*KKTC*
Fax: +90 392 815 63 67
E-mail: bbugan@hotmail.com