

Kounis Sendromu

Dr. İlker Akbaş

Atatürk Üniversitesi

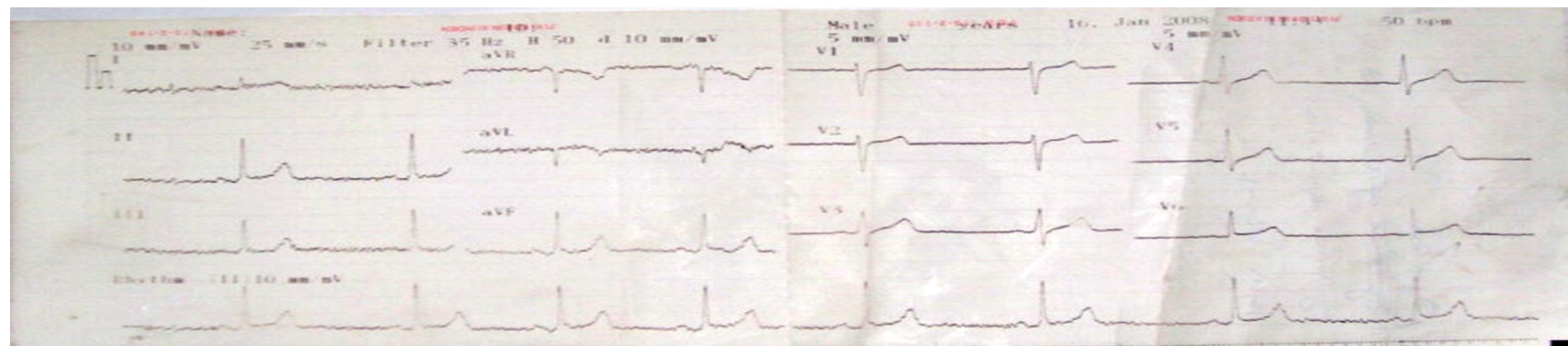
Acil Tıp Anabilim Dalı

Amaç

- Kounis sendromu hakkında acil servis hekimlerinde farkındalık oluşturmak



- 23 yaş erkek
- Penis derisinde soyulma şikayeti
- Ellerde, dudaklarda ve ağızda benzer şikayetler mevcut
- Baş ağrısı için ilaç kullanımı sonrası başlayan lezyonlar
- Detaylı anamnez: göğüs ağrısı ve çarpıntı



- cTnl: 3,41 —————→ 18
- Ekokardiyografi, anjiografi
- Myokard SPECT
- İlaç ilişkili myokardit & ilaca bağlı deri erüpsiyonu

Article outline

Abstract

References

Figures and tables



The American Journal of Emergency Medicine

Volume 27, Issue 1, January 2009, Pages 132.e3–132.e5



Case Report

Myocarditis due to oral flurbiprofen use

Mustafa Uzkeser, MD, Mucahit Emet, MD, Sahin Aslan, MD  , Zeynep Cakir, MD, Sule Turkeyilmaz, MD

Department of Emergency Medicine, Ataturk University, School of Medicine, 25090 Erzurum, Turkey

Enbiya Aksakal, MD

Department of Cardiology, Ataturk University, School of Medicine, 25090 Erzurum, Turkey

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doi:10.1016/j.ajem.2008.04.030

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The American Journal of Emergency Medicine

Volume 27, Issue 4, May 2009, Pages 506–508



Correspondence

Hypersensitivity myocarditis and hypersensitivity coronary syndrome (Kounis syndrome)

George N. Kounis, MD, MSc

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The American Journal of Emergency Medicine

Volume 27, Issue 4, May 2009, Pages 508



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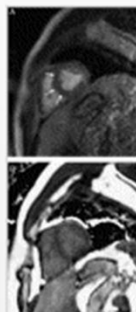
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The American Journal of Emergency Medicine

Volume 28, Issue 9, November 2010, Pages 1061.e5–1061.e7



Case Report

Allergic angina can be determined by the early use of cardiac magnetic resonance imaging

Mucahit Emet, MD ✓

Mecit Kantarci, MD

Enbiya Aksakal, MD

Bahar Cankaya, MD

Mustafa Uzkeser, MD, Sahin Aslan, MD, Zeynep Cakir, MD

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Kounis syndrome (KS) is the simultane appearance of acute coronary syndrome with circumstances accompanied with mast cell degranulation and is precipitated via inflammatory mediators released through the mast cell activation. Generally, in published cases with KS, ST elevations on electrocardiogram (ECG) and marked cardiac enzyme elevations including troponins were observed. Here, we introduce a case who represented with symptoms of allergic angina without any finding on ECG and troponin

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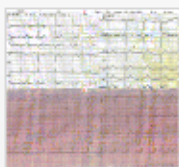
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References

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ELSEVIER

The American Journal of Emergency Medicine

Volume 30, Issue 9, November 2012, Pages 2086.e5–2086.e7



Case Report

Two questions for Kounis syndrome: can we use magnetic resonance imaging in the diagnosis and does ST elevation correlates with troponin levels?

Ayhan Akoz, MD , Atif Bayramoglu, MD, Mustafa Uzkeser, MD

Received 1 December 2011, Accepted 9 December 2011, Available online 3 March 2012

doi:10.1016/j.ajem.2011.12.016

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Abstract

Kounis syndrome (KS) is an acute coronary vasospasm after exposure to an allergen due to mast cell degranulation and existing mediators. Various drugs, conditions, and environmental exposures can cause KS. We presented 2 cases, 1 of whom had taken an antflu drug (containing paracetamol, pseudoephedrine, and dextromethorphan). His electrocardiogram (ECG) showed inferior ST elevations (2 mm) with normal cardiac biomarkers. His cardiac magnetic resonance imaging showed hypokinesis and

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A PROSPECTIVE STUDY OF KOUNIS SYNDROME: CLINICAL EXPERIENCE AND CARDIAC MAGNETIC RESONANCE IMAGING FINDINGS FOR 21 PATIENTS

By: Akoz, A (Akoz, Ayhan)^[1]; Tanboga, H (Tanboga, Halil Ibrahim)^[2]; Emet, M (Emet, Mucahit)^[1]; Bayramoglu, A (Bayramoglu, Atif)^[1]; Kizrak, Y (Kizrak, Yesim)^[3]; Kantarci, M (Kantarci, Mecit)^[3]; Aslan, S (Aslan, Sahin)^[1]

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ACTA MEDICA MEDITERRANEA

Volume: 29 Issue: 4 Pages: 811-816

Published: 2013

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Abstract

Background: Thus far, there are only case reports about allergic angina (Kounis Syndrome, KS). Neither incidence nor imaging findings have been reported.

Aim: To determine the incidence of KS and evaluate the role of cardiac magnetic resonance imaging (CMRI) in detecting KS among allergy patients in the emergency department (ED).

Material and Methods: The study population included patients over 18-year-old suffering from KS. Detection of pathologies on at least one of the

electrocardiogram (ECG), cardiac enzymes, or CMRI tests was identified as the criterion for KS. As part of the CMRI procedure, T2-weighted imaging, echo-

POSTĘPY W KARDIOLOGII INTERWENCYJNEJ

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Postępy Kardiologii Interwencyjnej. 2015; 11(3): 218–223.

PMCID: PMC4631737

Published online 2015 Sep 28. doi: [10.5114/pwki.2015.54017](https://doi.org/10.5114/pwki.2015.54017)

The utility of cardiac magnetic resonance imaging in Kounis syndrome

Aylin Okur,¹ Mecit Kantarci,^{1,2} Leyla Karaca,² Hayri Oğul,² Ayhan Aköz,³ Yesim Kızrak,² Sahin Aslan,³ Berhan Pirimoglu,² Enbiya Aksakal,⁴ and Mucahit Emet³

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Abstract

Go to: 

Introduction

Current diagnostic measurements used to assess myocardial involvement in Kounis syndrome, such as electrocardiography (ECG), cardiac enzymes, and troponin levels, are relatively insensitive to small but potentially significant functional change. According to our review of the literature, there has been no study using magnetic resonance imaging (MRI) on Kounis syndrome except for one case report.

Aim

To identify the findings of dynamic contrast-enhanced magnetic resonance imaging (CE-MRI) in patients with Kounis syndrome (KS) type 1.

Material and methods

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[Optimal use of contrast medium in contrast enhanced MR imaging of the heart]. [Nihon Igaku Hoshasen Gakkai Za...]

[Patterns of delayed-enhancement in MRI of ischemic and non-ischemic cardiomyopathies]. [Rofo. 2007]

See reviews...

See 1 citation found using an alternative search:

Br J Clin Pract. 1991 Summer;45(2):121-8.

Histamine-induced coronary artery spasm: the concept of allergic angina.

Kounis NG¹, Zavras GM.

Author information

¹Hospital for Chest Diseases, Patras, Greece.

Abstract

Histamine, the main amine released during allergic reactions, can provoke coronary arterial spasm manifested as angina pectoris. This has been shown during clinical and laboratory studies. The effects of histamine on cardiac function are mediated via H1- and H2- receptors situated on the four cardiac chambers and coronary arteries. Coronary arteries of cardiac patients are hyperactive and contain stores of histamine which can initiate coronary artery spasm. Clinical observations indicate that angina pectoris or acute myocardial infarction can be provoked by acute allergic reaction. The coincidental occurrence of chest pain and allergic reaction accompanied by clinical and laboratory findings of classical angina pectoris seems to constitute the syndrome of allergic angina. The clinical symptoms of allergic angina include chest discomfort, dyspnoea, faintness, nausea, pruritus and urticaria. They are accompanied by signs such as hypotension, diaphoresis, pallor and bradycardia. There are also electrocardiographic findings indicating myocardial ischaemia, arrhythmias and conduction defects. Thus, in patients undergoing acute allergic reaction, the development of chest pain could be explained by the mechanism of coronary arterial spasm provoked by the release of histamine, which constitutes the syndrome of allergic angina.

PMID: 1793697 [PubMed - indexed for MEDLINE]



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Review [Angina pectoris in extracoronary diseases]. [Herz. 1999]

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Review Kounis syndrome (allergic angina and allergic myocardial infarction). [Int J Cardiol. 2006]

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Review Coronary Vasospastic Angina: Current Understand [Zhonghua Minguo Xin Zang Xue H...]

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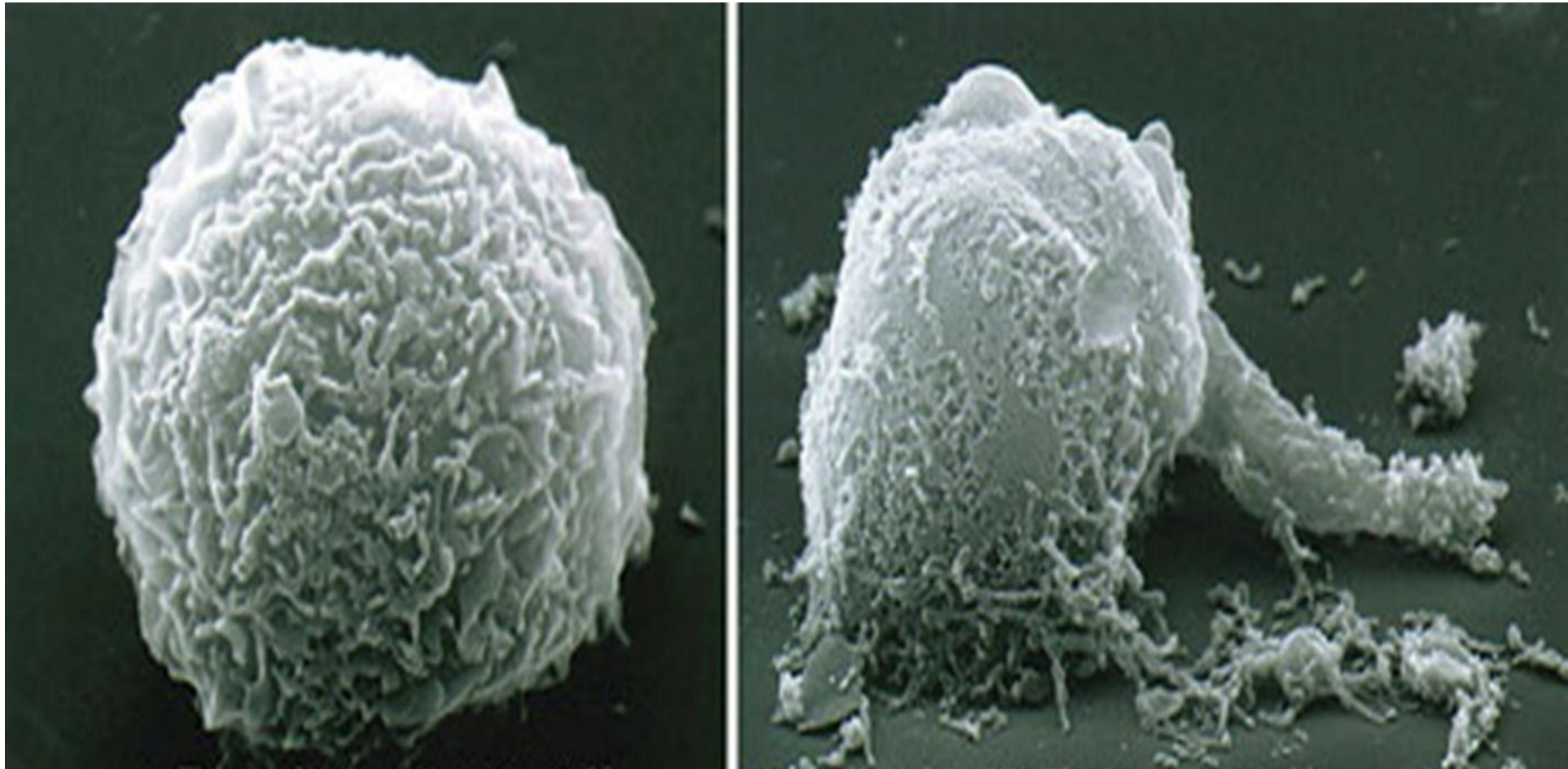


Katsanou K, Karagiannidis I, Oikonomou G, Kounis NG. Kounis syndrome: Report of 3 cases. *Int J Cardiol* 2015; 197: 222-3.

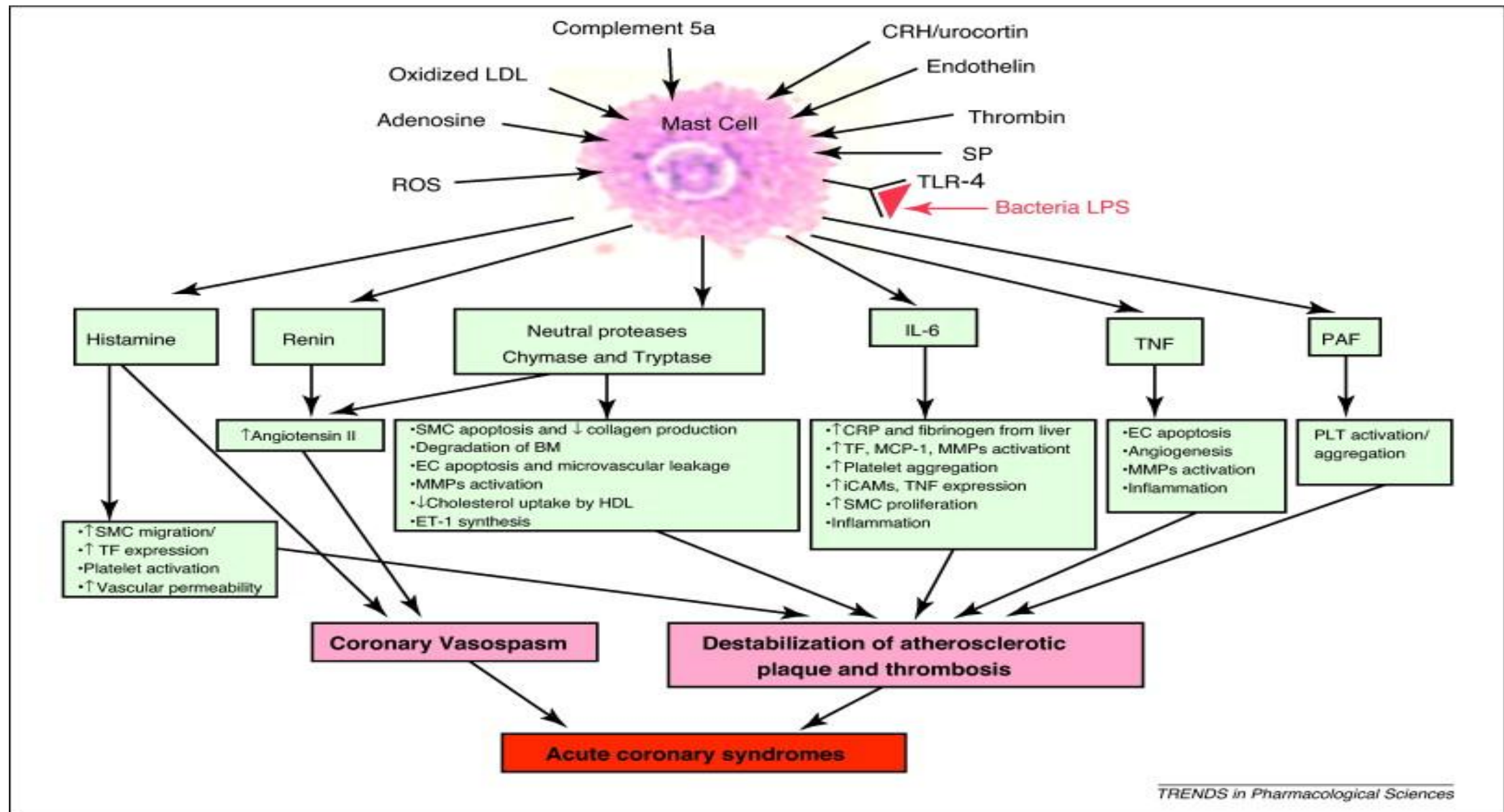
Kounis NG, Mazarakis A, Tsigkas G, Giannopoulos S, Goudevenos J. Kounis syndrome: A new twist on an old disease. *Future Cardiol* 2011; 7(6): 805-24.



- Ailesel Akdeniz ateşi geni olan E148Q ile olan ilişkisine dair yayınlar mevcut



Daha önceden sentelenen/depolanan mediyatörler						De novo sentezlenen mediyatörler			
Biojenik aminler	Kemokinler	Enzimler	Peptidler/ proteinler	Proteoglikanlar	Anjiogenik faktörler	Sitokinler	Growth faktörler	Fosfolipit metabolitleri	Diğer
Histamin	İnterlökin-8	Arilsulfataz	Kortikotropin relasing hormon	Kondrotin sülfat	Adrenomedulli n	İnterlökin - 1,2,3,4,5,6,8,10, 13,16,17,32	Stem cell faktör	Lökotrien B4	Nitrik oksit
5-hidroksitriptam ine	Monoksit kemotaktit protein-1,3,4	Karboksipeptid az-A	Endorfin	Heparin	Anjiogenin-anjiopoitin	İnterferon γ	GM koloni stimulasyon faktör	Lökotrien C4	Reaktif okijen metabolitleri
		Kimaz	Endotelin	Hyalorunik asit	Endotelyal growth faktör	Makrofaj inflamatuvar faktör	Fibroblast growth faktör	Platelet aktivating faktör	
		Kinogenez	Kininler (bradikinin)		Fibroblast growthn faktör α basic	Tümör nekrosis faktör α	Nerve growth faktör	Prostaglandin D2	
		Metalloprotein az	Nörotensin		İnterlökin-8	Trasforming growth faktör β	Vasküler endtelyal growth faktör		
		Fosfolipas	Renin (bağ dokusunda)		Nöroplin				
		Triptaz	Somatostatin		Trasnforming growth faktör β				
			Substance-P		Vasküler endotelyal growth faktör				
			Vasoaktif intestinal peptid						
			Ürokortin						



- **Çevresel nedenler:** karınca, arı, eşek arısı, deniz anası sokması, çim biçmek, mısır allerjisi, zehirli sarmaşık, lateks teması, kabuklu deniz hayvanı yemek, engerek venomu, deniz salyangozu, zehirler, dizel dumanı, sarin zehirlenmesi, uçan carvaria sokması
- **İlaçlar:** **Analjezikler:** dipirone, aspirin; **anestetik:** etomidate, propofol, remifentanil, rokuronyum, süksinilkolin, trimetefan; **antibiyotik:** Beta-laktamlar, ampisilin, ampisilin/sulbaktam, amoksisilin, amikasin, sefazolin, sefuroksim, sefaratin, sinoksasin, linkomisin, penisilinler, sulbaktam/sefoperazon, vankomisin, siproflokaşisin; **antikolinergikler:** trimetefan, **NSAİDler:** diklofenak, naproksen sodyum, ibuprofen, aklofenak; **antineoplastik ilaçlar:** 5-flurourasil, capecitabine, karboplatin, sisplatin, siklofosfamid; **glukokortikoidler:** betametazon, hidrokortizon; **kontrastlı maddeler:** loheksol, loksaglade, mrglumine, diatriozoate, sodyum indigotidinsulfanate; **kortikostereoidler:** beta-metazon, hidrokortizon, **myorelaksanlar:** sukzamethonium, cisatracurium, roncuronyum, **PPI'lar:** lansoprozol; **cilt dezenfektanları:** klorheksadin, povidin-iyot; **trombolitik ve anti-koagulanlar:** heparin, streptokinaz, ürokinaz, lepurudin, hirudin, bivaluridine; **diğerleri:** allopurinol, enalapril, esmelol, dekstran-40, früktoz, insülin, iodine, protamin, tetanoz antitoksin, nikotine bantları, meselamine
- **Medikal durumlar:** anjioödem, bronşial astım, ürtiker, Churg-Strauss sendromu, yiyecek allerjisi, ekzersiz kaynaklı allerji, mastositozis, serum hastalığı, intrakoronel stent, patent foramen ovaleyi kapatmak için kullanılan intrakardiyak prostetik materyaller.

Klinik başvuru

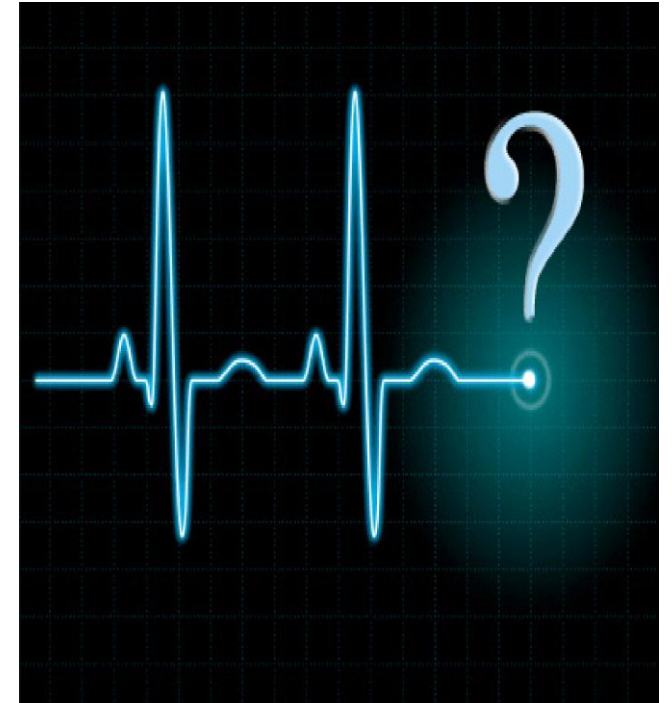
- Kardiyak semptomlar + alerjik reaksiyonlar
- Dakikalar  saatler



Kounis NG. Coronary hypersensitivity disorder: the Kounis syndrome. Clin Ther. 2013;35(5):563-71.

Gunaydin ZY, Bektas O, Akgedik R, Kaya A, Acar T. Recurrent Kounis syndrome. How should be the long-term treatment of Kounis syndrome? Int J Cardiol. 2014;177(3):1042-3.

- Normal, non-spesifik, ST segment depresyonu, ST segment elevasyonu
- NSR, blok, aritmi
- cTnI, Normal, 



Tanı

- Şüphelenmek

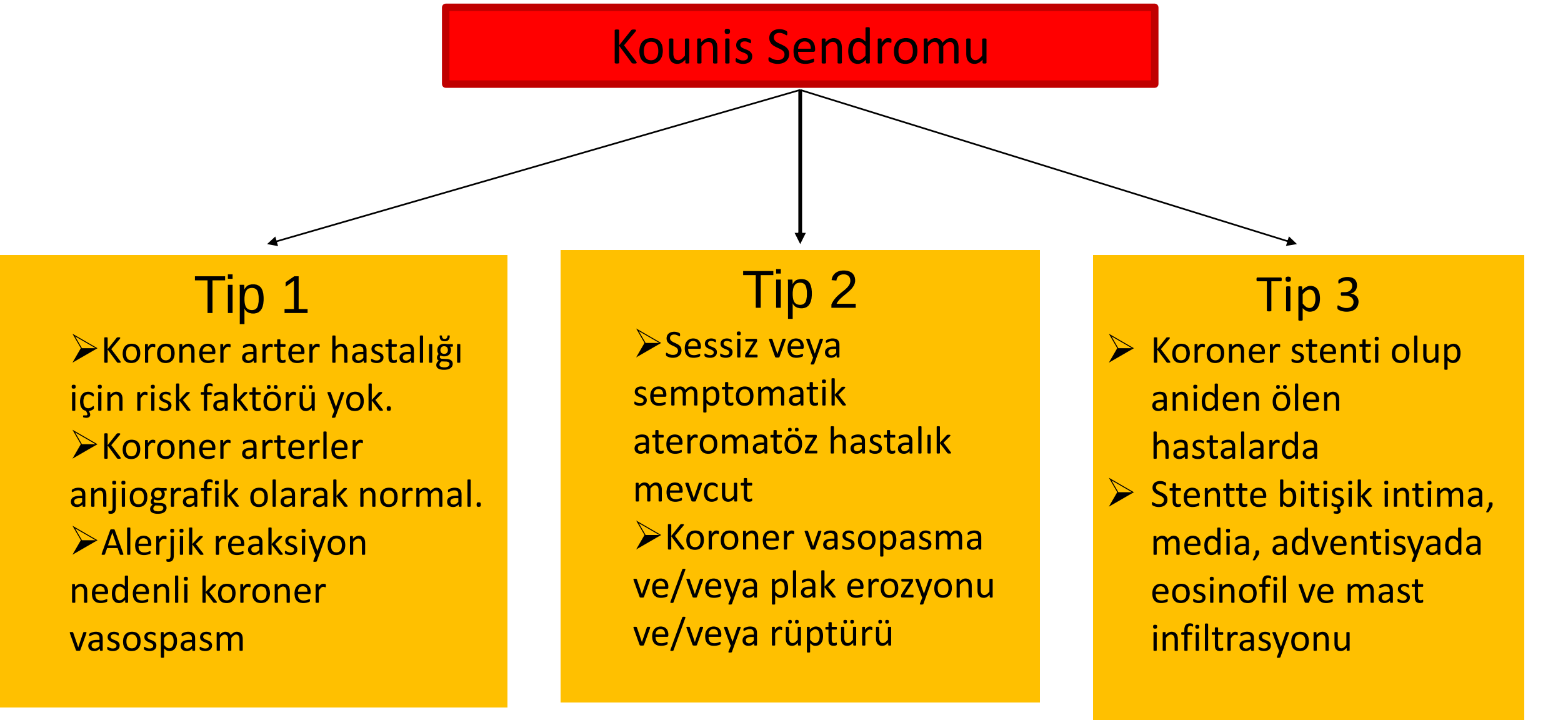


- Anamnez
- Ekg
- Laboratuvar
- X-ray
- Ekokardiyografi
- Anjiyografi



- Histamin
- Triptaz
- Kimaz
- Spesifik IgE, Total IgE
- Kompleman inhibitörleri (C1 ve C4 esteraz inhibitörleri)
- TNF, interferon, IL-6
- Aritidonik asit metabolitleri

Kounis Sendromu



```
graph TD; A[Kounis Sendromu] --> B[Tip 1]; A --> C[Tip 2]; A --> D[Tip 3];
```

Tip 1

- Koroner arter hastalığı için risk faktörü yok.
- Koroner arterler anjiyografik olarak normal.
- Alerjik reaksiyon nedenli koroner vasospasm

Tip 2

- Sessiz veya semptomatik ateromatöz hastalık mevcut
- Koroner vasopasma ve/veya plak erozyonu ve/veya rüptürü

Tip 3

- Koroner stenti olup aniden ölen hastalarda
- Stentte bitişik intima, media, adventisyada eosinofil ve mast infiltrasyonu

Ralapanawa DM, Kularatne SA. Kounis syndrome secondary to amoxicillin/clavulanic acid administration: A case report and review of literature. BMC Res Notes 2015; 8: 97.

Okur, A., Kantarci, M., Karaca, L., Ogul, H., Aköz, A., Kızrak, Y. & Emet, M. The utility of cardiac magnetic resonance imaging in Kounis syndrome. Postępy w Kardiologii Interwencyjnej= Advances in Interventional Cardiology, 2015,11(3), 218.

Tedavi

- Akut koroner sendromun yönetimini ve alerjik reaksiyonun tedavisini içerir

Akut Koroner Sendrom	Alerjik Reaksiyon
Aspirin	H1 bloker
Nitrat	H2 bloker
Heparin	Streoidler
Opioid analjezik	Epinefrin
Kalsiyum kanal blokerleri	Sıvı Desteği

Kounis, Nicholas G. Kounis syndrome: an update on epidemiology, pathogenesis, diagnosis and therapeutic management. Clinical Chemistry and Laboratory Medicine (CCLM), 2016.

Lopez PR, Peiris AN. Kounis syndrome. South Med J. 2010;103(11):1148-55.

Sonuç

- Kounis sendromu nadir olmamasına rağmen az tanı konulan bir hastalık
- Hastalık hakkında bilgi sahibi olmak hastaların hem akut koroner sendrom hem de alerjik olay açısından optimal tedaviyi almasını sağlayacaktır
- Ek çalışmalara ihtiyaç var

Teşekkürler