Antimikrobiyal Profilaksiden Neden Vazgeçiliyor ?

Uzm. Dr Fatma Yılmaz Karadağ

İstanbul Medeniyet Üniversitesi
Göztepe Eğitim ve Araştırma Hastanesi

Antimikrobiyal Profilaksi

- Uygulanmalı mı ?
- Uygulanmamalı mı?

Deneyim

www.uptodate.com

Rehberler

Klasik Kitaplar

American Heart Association (AHA)

National Institute for Health and Care Excellence (NİCE)

European Society for Cardiology (ESC)

KLİMİK İEÇG REHBERİ (Tasarı)

Antibiyotik Profilaksi Tartışması

- Oral antibiyotik profilaksi 50 yıldır uygulanmaktadır

  (yüksek riskli kalp hastalarına dental girişim öncesi)

- Hayvan modellerinde faydalı olduğu gösterilmiş

- Klinik kanıt oldukça düşüktür (randomize kontrollü çalışma yok)

Antibiyotik Profilaksi Tartışması

- Antibiyotik kullanımı sorunu
- Antibiyotik direnci
- Anaflaktik reaksiyon gelişmesi

TARİHÇE

- 1920 : İlk kez İE gelişmesi ile invazif işlemler arasında ilişki

  1923 : İnvazif dental girişimlerin İE için risk oluşturduğu

- 1935: İnvazif dental girişim yapılan hastaların % 61'de kan

  kültüründe *S.oralis* saptamış.

Lewis T, Grant R. Heart 1923; 10: 21-27.

Okell CC,Elliott SD. Lancet 1935; 226 : 869-72

TARİHÇE

- 1955 : Amerika Heart Association (AHA) streptokokal bakteriyemi önlemek amacı ile penisilin profilaksisi
- 1957, 1960, 1965, 1972, 1977, **1984**, 1990, 1997

AHA 1955 (ilk rehber)

- Romatizmal ve konjenital kalp hastalığı olan kişiler profilaksi

1. Diş çekimi veya diş etlerine zarar verildiği durum
2. Tonsilektomi veya adenektomi
3. Doğum eylemi
4. GIS yada üriner sistem operasyonu

Öneri

1- 600.000 ünite prokain penisilin / gün, im, 2 gün cerrahi öncesi

2- Cerrahi günü; 600.000 ünite prokain penisilin im, işlemden 1 saat önce 600000 ünit kristalize penisilin

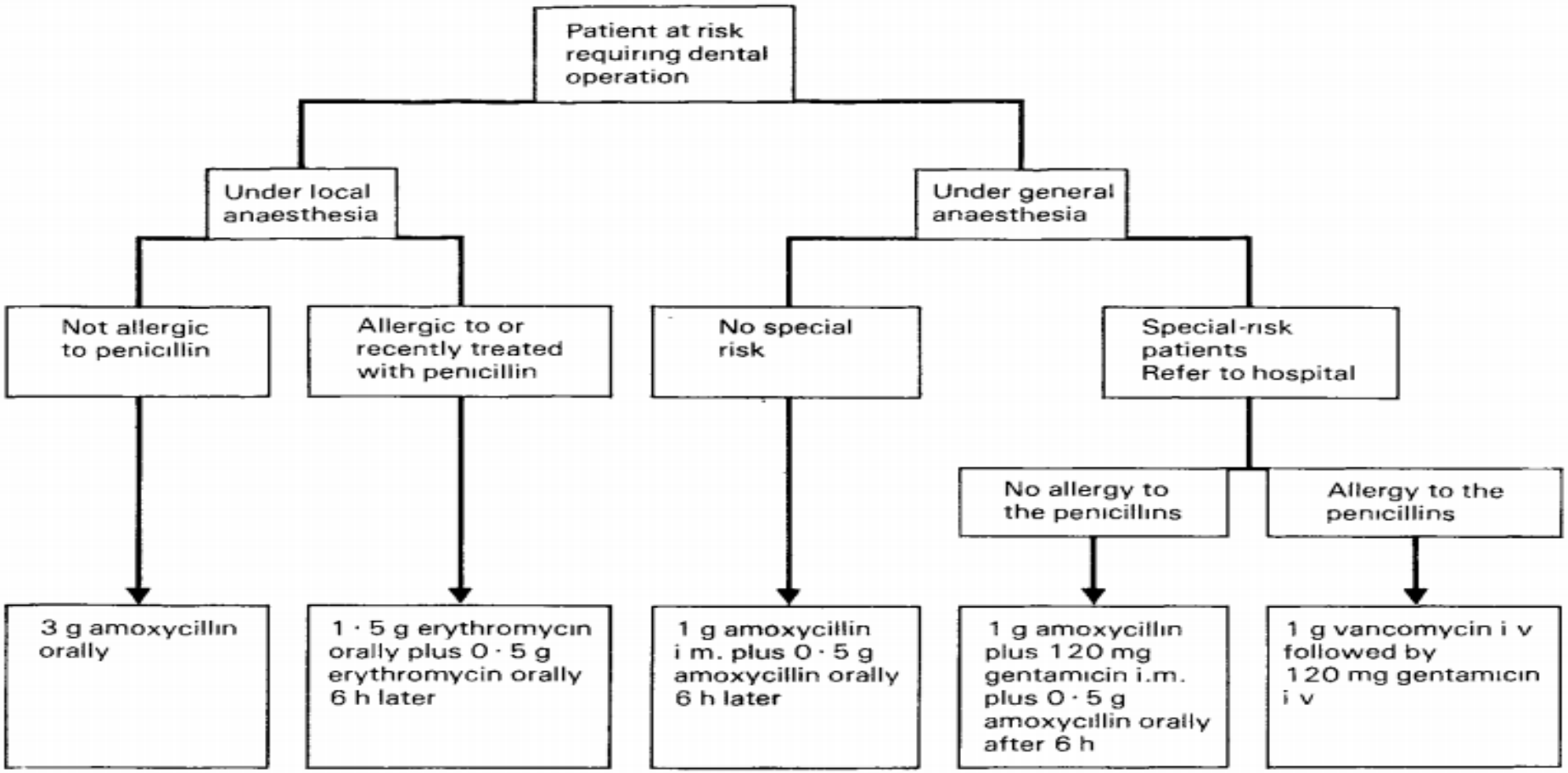
3-Cerrahi sonrası 2 gün, günde 600.000 prokain penisilin im

THE LANCET, DECEMBER 11, 1982

Preventive Medicine

THE ANTIBIOTIC PROPHYLAXIS OF INFECTIVE ENDOCARDITIS

Report of a Working Party of the British Society for Antimicrobial Chemotherapy*



Endocarditis prophylaxis for dental procedures.

1993 Lyon

(Fransa, Almanya Hollanda, İskandinavya, İngiltere, Amerika

European Heart Journal (1995) **16** (*Supplement B*), 126–131

Antibiotic prophylaxis for infective endocarditis

from an international group of experts towards a European consensus

Table 4 Cardiac conditions at risk requiring antibiotic prophylaxis for infective endocarditis—European consensus

Cardiac diseases with the highest risk
Prosthetic valves
Congenital heart disease causing cyanosis
Previous infective endocarditis
Other cardiac diseases at risk
Valvular heart disease: AR, MR, AS, including MVP with MR, and bicuspid aortic valve
Congenital heart disease which does not cause cyanosis, except IAC
Hypertrophic obstructive cardiomyopathy

AR = aortic regurgitation; MR = mitral regurgitation; AS = aortic stenosis; MVP = mitral valve prolapse; IAC = interatrial communication.

European Heart Journal (1995) **16** (*Supplement B*), 126–131

Antibiotic prophylaxis for infective endocarditis

from an international group of experts towards a European consensus

Table 6 Procedures at risk for infective endocarditis requiring antibiotic prophylaxis—European consensus

Dental	All procedures
Upper respiratory tract	Tonsillectomy, adenoidectomy
Gastrointestinal	Oesophageal dilatation or surgery Endo-oesophageal laser procedures Sclerosing procedures of oesophageal varices Abdominal surgery
Urological	Instrumental procedures involving the ureter or the kidney Biopsy or surgery of prostatic or urinary tract
Procedures for which the risk of infective endocarditis is controversial	
Upper respiratory tract	Fiberoptic fibroscopy Endotracheal intubation
Gastrointestinal	Coloscopy ± biopsy
Genital	Vaginal hysterectomy, vaginal delivery*

European Heart Journal (1995) **16** (*Supplement B*), 126–131

Antibiotic prophylaxis for infective endocarditis

from an international group of experts towards a European consensus

Table 7 Antibiotic prophylaxis for infective endocarditis—European consensus

	1 h before the procedure	6 h later
Minimal regimen		
No allergy to penicillin	Amoxicillin 3 g orally	No second dose
Allergy to penicillin	Clindamycin 300–600 mg orally	No second dose
Flexible modifications from minimal to maximal regimen		
Additional doses after the procedure Adjunction of aminoglycosides Use of parenteral route of administration		
Maximal regimen		
No allergy to penicillin	Amoxicillin (ampicillin) 2 g iv + gentamicin 1·5 mg/kg^{-1} im or iv	1–1·5 g orally
Allergy to penicillin	Vancomycin 1 g > 1 h iv infusion + gentamicin 1·5 mg/kg^{-1} im or iv	1 g > 1 h iv infusion*

*Twelve h later instead of 6 h later.

AHA REHBERİ 1997

Yüksek riskli: protez kapak, geçirilmiş İE, siyanotik kalp hastalık, pulmoner shunt düzeltme operasyonları

Orta riskli: Kazanılmış kapak hastalıkları (ARA), konjenital kalp malformasyonları, hipertirofik kardiomyopati, mitral valv prolapsus*

Düşük riskli : PDA, VSD, ASD (primum), pacemaker

- İnvaziv dental girişim => yüksek riskli hastalara antibiyotik profilaksi
- Antibiyotik = > Amoksisilin 2 gr , oral, 1 saat önce

Dajani AS et .al Circulation. 1997; 96 : 358-66

2002 Fransız Uyum Rehberi

- Kısıtlı antibiyotik profilaksisi öneren ilk rehber
- Yüksek riskli kalp hastalar => invazif girişim öncesi

(protez kapak varlığı, tamir edilmemiş siyanotik kalp hastalığı, geçirilmiş İE)

<u>Hijyen önlemleri (bakteriyemi önlemek için)</u>

*Deri bütünlüğünü bozan girişimler

* Periferik kateter > santral kateter (3-4 gün değiştirilmesi)

Journal of Antimicrobial Chemotherapy (2006) **57**, 1035–1042
doi:10.1093/jac/dkl121
Advance Access publication 19 April 2006

JAC

Guidelines for the prevention of endocarditis: report of the Working Party of the British Society for Antimicrobial Chemotherapy

F. K. Gould[1]*, T. S. J. Elliott[2], J. Foweraker[3], M. Fulford[4], J. D. Perry[1], G. J. Roberts[5], J. A. T. Sandoe[6] and R. W. Watkin[7]

[1]*Department of Microbiology, Freeman Hospital, Newcastle upon Tyne, UK;* [2]*Department of Microbiology, Queen Elizabeth Hospital, Birmingham, UK;* [3]*Department of Microbiology, Papworth Hospital, Cambridge, UK;* [4]*Postgraduate Dental Department, University of Bristol, Bristol, UK;* [5]*King's College Dental Institute, London, UK;* [6]*Department of Medical Microbiology, Leeds Teaching Hospitals NHS Trust, Leeds, UK;* [7]*Department of Cardiology, Queen Elizabeth Hospital, Birmingham, UK*

Table 1. Prophylaxis for dental procedures

High-risk cardiac factors requiring antibiotic prophylaxis
Previous infective endocarditis
Cardiac valve replacement surgery, i.e. mechanical or biological prosthetic valves
Surgically constructed systemic or pulmonary shunt or conduit
Dental procedures requiring antibiotic prophylaxis
All dental procedures involving dento-gingival manipulation

Table 2. Antibiotic prophylaxis for dental procedures

Population	>10 years
General	amoxicillin 3 g po
Allergic to penicillin	clindamycin 600 mg po
Allergic to penicillin and unable to swallow capsules	azithromycin 500 mg po
Intravenous regimen expedient	amoxicillin 1 g iv
Intravenous regimen expedient and allergic to penicillin	clindamycin 300mg iv[a]

Journal of Antimicrobial Chemotherapy (2006) **57**, 1035–1042
doi:10.1093/jac/dkl121
Advance Access publication 19 April 2006

JAC

Guidelines for the prevention of endocarditis: report of the Working Party of the British Society for Antimicrobial Chemotherapy

F. K. Gould[1]*, T. S. J. Elliott[2], J. Foweraker[3], M. Fulford[4], J. D. Perry[1], G. J. Roberts[5], J. A. T. Sandoe[6] and R. W. Watkin[7]

[1]*Department of Microbiology, Freeman Hospital, Newcastle upon Tyne, UK;* [2]*Department of Microbiology, Queen Elizabeth Hospital, Birmingham, UK;* [3]*Department of Microbiology, Papworth Hospital, Cambridge, UK;* [4]*Postgraduate Dental Department, University of Bristol, Bristol, UK;* [5]*King's College Dental Institute, London, UK;* [6]*Department of Medical Microbiology, Leeds Teaching Hospitals NHS Trust, Leeds, UK;* [7]*Department of Cardiology, Queen Elizabeth Hospital, Birmingham, UK*

These guidelines have been produced following a literature review of the requirement for prophylaxis to prevent bacterial endocarditis following dental and surgical interventions. Recommendations are made based on the quality of available evidence and the consequent risk of morbidity and mortality for 'at risk' patients.

- ✓ İnvaziv dental girişim yapılacak yüksek riskli hastalara verilebilir
- ✓ İnvaziv GİS, GÜS, jinekolojik ve solunum sistem girişimlerinde hem yüksek hemde orta riskli hastalara profilaksi önermektedir

AHA Guideline 2007

Prevention of Infective Endocarditis

Guidelines From the American Heart Association

A Guideline From the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on Cardiovascular Disease in the Young, and the Council on Clinical Cardiology, Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care and Outcomes Research Interdisciplinary Working Group

Walter Wilson, MD, Chair; Kathryn A. Taubert, PhD, FAHA; Michael Gewitz, MD, FAHA; Peter B. Lockhart, DDS; Larry M. Baddour, MD; Matthew Levison, MD; Ann Bolger, MD, FAHA; Christopher H. Cabell, MD, MHS; Masato Takahashi, MD, FAHA; Robert S. Baltimore, MD; Jane W. Newburger, MD, MPH, FAHA; Brian L. Strom, MD; Lloyd Y. Tani, MD; Michael Gerber, MD; Robert O. Bonow, MD, FAHA; Thomas Pallasch, DDS, MS; Stanford T. Shulman, MD, FAHA; Anne H. Rowley, MD; Jane C. Burns, MD; Patricia Ferrieri, MD; Timothy Gardner, MD, FAHA; David Goff, MD, PhD, FAHA; David T. Durack, MD, PhD

The Council on Scientific Affairs of the American Dental Association has approved the guideline as it relates to dentistry. In addition, this guideline has been endorsed by the American Academy of Pediatrics, Infectious Diseases Society of America, the International Society of Chemotherapy for Infection and Cancer, and the Pediatric Infectious Diseases Society.*

Yüksek Riskli Hastalar
(AHA 2007)

1-Protez kapak varlığı (yada herhangi bir protez malzeme)
2-Geçirilmiş İE öyküsü
3-Konjenital siyanotik kalp hastalıkları
4-Konjenital kalp hasar tamir cerrahisini takip eden ilk 6 ay
5-Kardiyak valvülopati gelişen kalp nakli yapılan kişiler

AHA 2007 Hangi Girişimlerde

- Dişeti dokusunun manipülasyonunu veya dişlerin periapikal bölgesini veya oral mukozanın delinmesini içeren tüm diş prosedürleri
- Solunum yolları mukoza hasarı olan girişimler
- Enfekte deri, cilt yapıları veya kas-iskelet sistemi dokuları üzerindeki prosedürler

Antibiyotik Uygulama (AHA 2007)

Ağız yolu	**Amoksisilin 2 gr, po**
Ağız yolu ile alamıyorsa	Ampisilin 2gr iv / im Sefazolin yada seftriakson 1 gr
Penisilin Alerjisi Varsa	
Ağız yolu	Klindamisin 600 mgr Azitromisin / Klaritromisin 500 mgr
Ağız yolu ile alamıyorsa	Klindamisin 600 mg iv/ im

Girişimden 30-60 dakika önce

NICE National Institute for Health and Care Excellence

NICE guideline

Prophylaxis against infective endocarditis: antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures

Clinical guideline

Published: 17 March 2008

nice.org.uk/guidance/cg64

Antibiyotik profilaksisine gerek yok

European Heart Journal (2009) **30**, 2369-2413
doi:10.1093/eurheartj/ehp285

Enfektif endokardit tanı, önleme ve tedavi kılavuzu (2009 güncellemesi)

Avrupa Kardiyoloji Derneği (ESC) Enfektif Endokardit Tanı, Önleme ve Tedavi Görev Grubu

Avrupa Klinik Mikrobiyoloji ve Enfeksiyon Hastalıkları Derneği (ESCMID) ve Uluslararası Enfeksiyon ve Kanser Kemoterapisi Derneği (ISC) tarafından desteklenmiştir

Tablo 4 Enfektif endokardit riski en yüksek olan ve yüksek riskli girişimlerde profilaksi tavsiye edilen kalple ilgili durumlar

Tavsiye: profilaksi	Sınıf[a]	Düzey[b]
Antibiyotik profilaksisi yalnızca EE riski en yüksek olan hastalarda düşünülmelidir 1. Protez kapak bulunan ya da kalp kapağı onarımında protez materyali kullanılmış hastalar 2. Daha önce EE geçirmiş hastalar 3. Doğumsal kalp hastalığı olanlar a. cerrahi onarım uygulanmamış ya da rezidüel defektler, palyatif şantlar ya da kondüitler bulunan siyanotik doğumsal kalp hastalığı b. protez materyali kullanılarak cerrahi girişimle ya da perkütan teknikle tam cerrahi onarım uygulanmış doğumsal kalp hastalığı bulunanlarda girişimden sonra 6 aya kadar c. kardiyak cerrahi ya da perkütan teknikle protez materyali ya da cihaz yerleştirilen alanda rezidüel defektin sürmesi durumunda	IIa	C
Diğer valvüler ya da doğumsal kalp hastalıklarında, artık antibiyotik profilaksisi tavsiye edilmemektedir	III	C

[a]Tavsiye sınıfı

Enfektif endokardit tanı, önleme ve tedavi kılavuzu (2009 güncellemesi)

Avrupa Kardiyoloji Derneği (ESC) Enfektif Endokardit Tanı, Önleme ve Tedavi Görev Grubu

Tablo 5 Riskin en yüksek olduğu hastalarda riskli girişim tipine göre enfektif endokardit profilaksisi için tavsiyeler

Tavsiye: profilaksi	Sınıf[a]	Düzey[b]
A – Dental girişimler Yalnızca dişetinin ya da dişin periapikal bölgesinin manipüle edildiği dental girişimlerde ve ağız mukozasındaki perforasyonlarında **antibiyotik profilaksisi düşünülmelidir.**	IIa	C
Enfekte olmayan dokuya yapılan lokal anestezi uygulamalarında, dikiş alırken, dental grafilerde, çıkarılabilir prostodontik ya da ortodontik gereçler ya da braketlerin yerleştirilmesi ya da düzeltilmesi sırasında **antibiyotik profilaksisi tavsiye edilmemektedir.** Süt dişlerinin düşmesinde ya da dudak ve ağız mukozası travmalarından sonra da profilaksi tavsiye edilmemektedir.	III	C
B – Solunum yolu girişimleri*: Bronkoskopi ya da laringoskopi, transnazal ya da endotrakeal entübasyon gibi solunum yolu girişimlerinde **antibiyotik profilaksisi tavsiye edilmemektedir.**	III	C
C – Gastrointestinal ya da ürogenital girişimler*: Gastroskopi, kolonoskopi, sistoskopi ve transözofageal ekokardiyografi için **antibiyotik profilaksisi tavsiye edilmemektedir.**	III	C
D – Deri ve yumuşak doku*: **Hiçbir girişimde antibiyotik profilaksisi tavsiye edilmemektedir.**	III	C

[a]Tavsiye sınıfı.

Enfektif endokardit tanı, önleme ve tedavi kılavuzu (2009 güncellemesi)

Avrupa Kardiyoloji Derneği (ESC) Enfektif Endokardit Tanı, Önleme ve Tedavi Görev Grubu

Tablo 6 Riskli dental girişimlerde tavsiye edilen profilaksi

		Girişimden 30-60 dakika önce tek doz	
Durum	**Antibiyotik**	**Erişkinlerde**	**Çocuklarda**
Penisilin ya da ampisilin alerjisi yok	Amoksisilin ya da ampisilin*	Oral ya da i.v. yoldan 2 g	Oral ya da i.v. yoldan 50 mg/kg
Penisilin ya da ampisilin alerjisi var	Klindamisin	Oral ya da i.v. yoldan 600 mg	Oral ya da i.v. yoldan 20 mg/kg

Penisilin ve ampisilin uygulamasının ardından anafilaksi, anjiyoödem ya da ürtiker gelişen hastalarda sefalosporinler kullanılmamalıdır.

*Bir seçenek de i.v. 2 g, çocuklarda da i.v. 50 mg/kg sefaleksin, erişkinlerde i.v. 1 g, çocuklarda da i.v. 50 mg/kg sefazolin ya da seftriakson olabilir.

ESC 2015 Rehberi

Table 5 Recommendations for prophylaxis of infective endocarditis in the highest-risk patients according to the type of at-risk procedure

Recommendations	Class[a]	Level[b]
A. Dental procedures		
• Antibiotic prophylaxis should only be considered for dental procedures requiring manipulation of the gingival or periapical region of the teeth or perforation of the oral mucosa	IIa	C
• Antibiotic prophylaxis is not recommended for local anaesthetic injections in non-infected tissues, treatment of superficial caries, removal of sutures, dental X-rays, placement or adjustment of removable prosthodontic or orthodontic appliances or braces or following the shedding of deciduous teeth or trauma to the lips and oral mucosa	III	C

Table 5 *Continued*

Recommendations	Class[a]	Level[b]
B. Respiratory tract procedures[c]		
• Antibiotic prophylaxis is not recommended for respiratory tract procedures, including bronchoscopy or laryngoscopy, or transnasal or endotracheal intubation	III	C
C. Gastrointestinal or urogenital procedures or TOE[c]		
• Antibiotic prophylaxis is not recommended for gastroscopy, colonoscopy, cystoscopy, vaginal or caesarean delivery or TOE	III	C
D. Skin and soft tissue procedures[c]		
• Antibiotic prophylaxis is not recommended for any procedure	III	C

Table 3 Cardiac conditions at highest risk of infective endocarditis for which prophylaxis should be considered when a high-risk procedure is performed

Recommendations	Class[a]	Level[b]
Antibiotic prophylaxis should be considered for patients at highest risk for IE: (1) Patients with any prosthetic valve, including a transcatheter valve, or those in whom any prosthetic material was used for cardiac valve repair. (2) Patients with a previous episode of IE. (3) Patients with CHD: (a) Any type of cyanotic CHD. (b) Any type of CHD repaired with a prosthetic material, whether placed surgically or by percutaneous techniques, up to 6 months after the procedure or lifelong if residual shunt or valvular regurgitation remains.	IIa	C
Antibiotic prophylaxis is not recommended in other forms of valvular or CHD.	III	C

Table 6 Recommended prophylaxis for high-risk dental procedures in high-risk patients

Situation	Antibiotic	Single-dose 30–60 minutes before procedure	
		Adults	Children
No allergy to penicillin or ampicillin	Amoxicillin or ampicillin[a]	2 g orally or i.v.	50 mg/kg orally or i.v.
Allergy to penicillin or ampicillin	Clindamycin	600 mg orally or i.v.	20 mg/kg orally or i.v.

A change in the NICE guidelines on antibiotic prophylaxis

M. H. Thornhill,*[1] M. Dayer,[2] P. B. Lockhart,[3] M. McGurk,[4] D. Shanson,[5] B. Prendergast[6] and J. B. Chambers[7]

2016

Recommendation 1.1.3, 'Antibiotic prophylaxis against infective endocarditis is not recommended for people undergoing dental procedures' (or other non-dental procedures)

has now been changed to 'Antibiotic prophylaxis against infective endocarditis is not recommended routinely for people undergoing dental procedures.' The addition of the word 'routinely' is of considerable importance. As pointed out

Rehberlerdeki öneriler neden değişiyor ?

İnvaziv dental girişim → Bakteriyemi → İnfektif endokardit

İşlem	Bakteriyemi Gelişme Oranı (%)
Diş fırcalama (2 dakika)	23
Diş çekimi (antibiyotik profilaksi +)	33
Diş çekimi (antibiyotik profilaksi -)	60

- Kümültatif bakteriyemi etki (diş fırcalama) > 5,6 milyon diş çekimi

Lockhart, P.B., et al. Circulation, 2008. ***117****(24): p. 3118-25.*

Roberts, J.G.,. Pediatric Cardiology, 1999. ***20****(5): p. 317-325.*

İnvaziv dental girişim ile İE gelişmesi arasında ilişki var mı ?

- Hollanda'da yapılan prospektif kohort çalışmasında 427 İE olgunun sadece % 11' de(n:31) son 30 gün içinde invaziv dental girişim vardı.

Van der Meer et al. Arch Intern Med 1992;152:1869-73

- Fransa'da yapılan vaka kontrollü çalışmada 171 İE olgunun son 3 ayda dental girişim öyküsü olanlarla olmayanlar arasında fark saptanmamış.

Lacassin F et al. Eur Heart J 1995; 16: 1968-74

İnvaziv dental girişim ile İE gelişmesi arasında ilişki var mı ?

- Vaka kontrollü İE çalışmasında 273 infektif endokardit olgusu incelendiğinde son 3 ay içinde invazif dental girişim öyküsü varlığı arasında ilişki saptanmamış.

Strom BL et al. Ann Intern Med 1998;129:761-9.

- Tayvan'da retrospektif olarak 739 İE olgu incelenmiş. İE gelişmesinden önceki son 3 ayda invazif dental girişimin İE gelişme riskinin arttırmadığı rapor edilmiş.

Chen P-C et al. Medicine 2015; 94: e 1826

Heart Online First, published on February 17, 2017 as 10.1136/heartjnl-2015-309102

Valvular heart disease

ORIGINAL RESEARCH ARTICLE

Antibiotic prophylaxis for infective endocarditis: a systematic review and meta-analysis

Thomas J Cahill,[1] James L Harrison,[2] Paul Jewell,[3] Igho Onakpoya,[4] John B Chambers,[2] Mark Dayer,[5] Peter Lockhart,[6] Nia Roberts,[7] David Shanson,[8] Martin Thornhill,[9] Carl J Heneghan,[10] Bernard D Prendergast[2]

1-Bakteriyemi çalışması (n: 21)

2-Vaka kontrol çalışması (n: 5)

3-Popüler (time trend) çalışma (n: 10)

BMJ

RESEARCH

Impact of the NICE guideline recommending cessation of antibiotic prophylaxis for prevention of infective endocarditis: before and after study

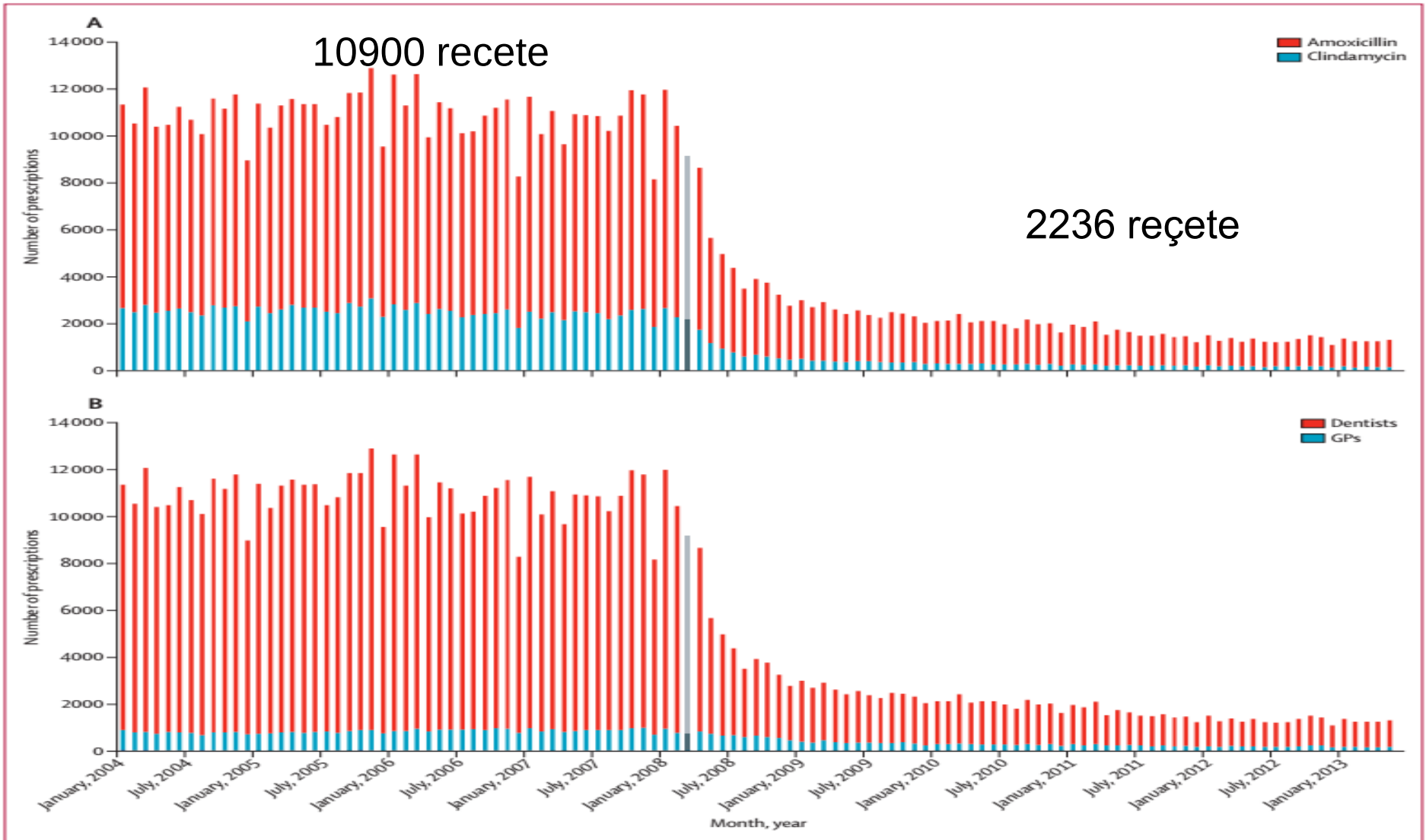
Martin H Thornhill, professor of oral medicine,[1] Mark J Dayer, consultant cardiologist,[2] Jamie M Forde, information analyst,[3] G Ralph Corey, Gary Hock professor in global health,[4] Vivian H Chu, assistant professor,[4] David J Couper, deputy director,[5] Peter B Lockhart, chair[6]

Cite this as: *BMJ* 2011;342:d2392
doi:10.1136/bmj.d2392

- ✓ Retrospektif bir çalışma 2000-2010 yılları arasındaki İE vakaları
- ✓ Profilaksi amacı ile antibiyotik reçete yazma oranı % 78,6 azalmış
- ✓ İE insidansında artış saptanmamış (2008 -2010)

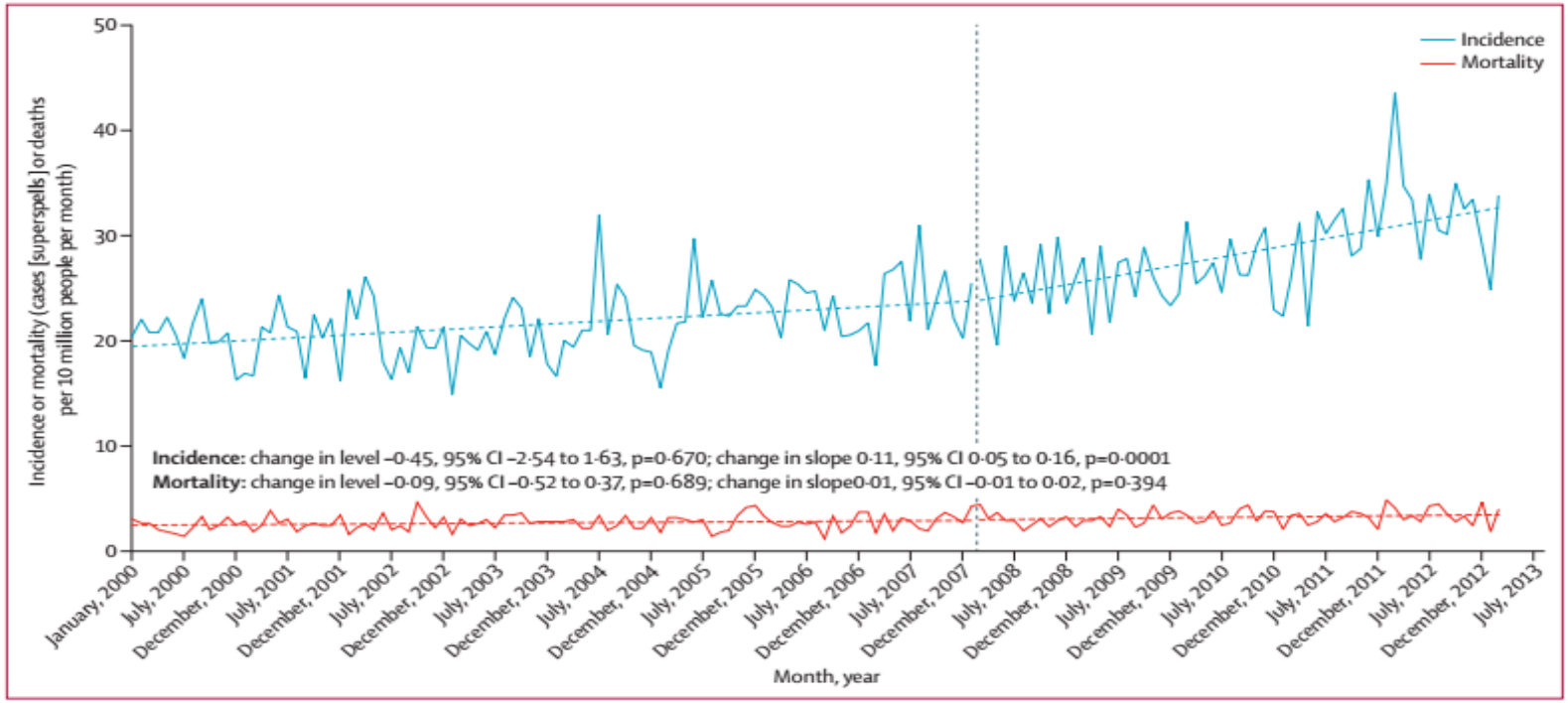
Incidence of infective endocarditis in England, 2000–13: a secular trend, interrupted time-series analysis

Mark J Dayer, Simon Jones, Bernard Prendergast, Larry M Baddour, Peter B Lockhart, Martin H Thornhill



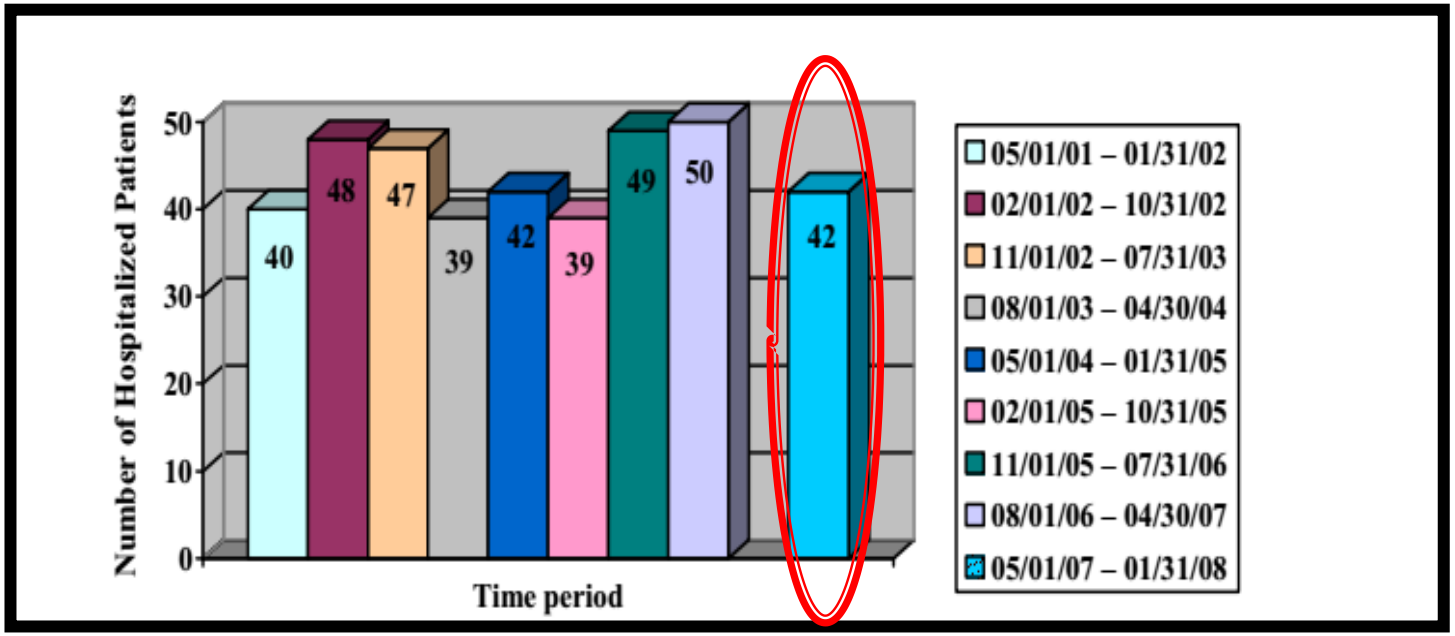
Incidence of infective endocarditis in England, 2000–13: a secular trend, interrupted time-series analysis

Mark J Dayer, Simon Jones, Bernard Prendergast, Larry M Baddour, Peter B Lockhart, Martin H Thornhill



- NİCE 2008 rehberinden sonra İE vakalarında artış var
- Etken incelemesi yapılmadığı için epidemiyolojik değişiklik ??

- AHA Rehberi 2007 öncesi ve sonrası San Francisco Hastanesi'nde takip edilen akut ve subakut İE (oral viridans streptokok) olgularını incelemişler.



Rogers AM .J Am Soc Echocardiogr 2008; 21: 775

Journal of the American College of Cardiology
© 2012 by the American College of Cardiology Foundation
Published by Elsevier Inc.

Vol. 59, No. 22, 2012
ISSN 0735-1097/$36.00
doi:10.1016/j.jacc.2012.02.029

Temporal Trends in Infective Endocarditis in the Context of Prophylaxis Guideline Modifications

Three Successive Population-Based Surveys

Xavier Duval, MD, PhD,*†‡ François Delahaye, MD, PhD,§‖ François Alla, MD, PhD,¶#
Pierre Tattevin, MD, PhD,** Jean-François Obadia, MD, PhD,†† Vincent Le Moing, MD, PhD,‡‡§§
Thanh Doco-Lecompte, MD,¶ Marie Celard, MD,‖‖ Claire Poyart, MD, PhD,¶¶##***
Christophe Strady, MD, PhD,††† Catherine Chirouze, MD,‡‡‡ Michelle Bes, PhD,‖‖
Emmanuelle Cambau, MD, PhD,‡§§§ Bernard Iung, MD,‡‖‖‖ Christine Selton-Suty, MD,¶
Bruno Hoen, MD, PhD,‡‡‡¶¶¶ on behalf of the AEPEI Study Group

Paris, Lyon, Nancy, Rennes, Bron, Montpellier, and Besançon, France

Table 1 Temporal Trends in Characteristics of IE (Definite, Probable, and Possible IE Using Modified von Reyn Classification)

Characteristic	1991 (n = 323)*			1999 (n = 331)*			2008 (n = 339)*			p Value†	p Value‡
	n	%/Mean	SD	n	%/Mean	SD	n	%/Mean	SD		
Streptococcaceae	180	55.7		195	58.9		167	49.3		**0.037**	0.089
Streptococci	144	44.6		160	48.3		128	37.8		**0.019**	0.071
Oral streptococci	77	23.8		61	18.4		70	20.6		0.232	
Group D streptococci	54	16.7		83	25.1		40	11.8		**<0.001**	0.087
Staphylococcaceae	67	20.7		90	27.2		122	36.0		**<0.001**	**<0.001**
Staphylococcus aureus	52	16.1		70	21.1		87	25.7		**0.010**	**0.002**
Coagulase-negative staphylococci	14	4.3		20	6.0		35	10.3		**0.007**	**0.002**

Journal of the American College of Cardiology
© 2012 by the American College of Cardiology Foundation
Published by Elsevier Inc.

Vol. 59, No. 22, 2012
ISSN 0735-1097/$36.00
doi:10.1016/j.jacc.2012.02.029

Temporal Trends in Infective Endocarditis in the Context of Prophylaxis Guideline Modifications

Three Successive Population-Based Surveys

Xavier Duval, MD, PhD,*†‡ François Delahaye, MD, PhD,§‖ François Alla, MD, PhD,¶#
Pierre Tattevin, MD, PhD,** Jean-François Obadia, MD, PhD,†† Vincent Le Moing, MD, PhD,‡‡§§
Thanh Doco-Lecompte, MD,¶ Marie Celard, MD,‖‖ Claire Poyart, MD, PhD,¶¶##***
Christophe Strady, MD, PhD,††† Catherine Chirouze, MD,‡‡‡ Michelle Bes, PhD,‖‖
Emmanuelle Cambau, MD, PhD,‡§§§ Bernard Iung, MD,‡‖‖‖ Christine Selton-Suty, MD,¶
Bruno Hoen, MD, PhD,‡‡‡¶¶¶ on behalf of the AEPEI Study Group

Paris, Lyon, Nancy, Rennes, Bron, Montpellier, and Besançon, France

SONUÇ

1-Oral streptokokal İE insidansında artış yok

2-*S.aureus* bakteriyemi artış (protez kapak, pacemarker ve DM)

Incidence of Infective Endocarditis Due to Viridans Group Streptococci Before and After the 2007 American Heart Association's Prevention Guidelines: An Extended Evaluation of the Olmsted County, Minnesota, Population and Nationwide Inpatient Sample

Daniel C. DeSimone, MD; Imad M. Tleyjeh, MD, MSc; Daniel D. Correa de Sa, MD; Nandan S. Anavekar, MBBCh; Brian D. Lahr, MS; Muhammad R. Sohail, MD; James M. Steckelberg, MD; Walter R. Wilson, MD; and Larry M. Baddour, MD; for the Mayo Cardiovascular Infections Study Group

Objective: To determine whether the incidence of infective endocarditis (IE) due to viridans group streptococci (VGS) increased after the publication of the 2007 American Heart Association (AHA) IE prevention guidelines.

Patients and Methods: We performed a population-based survey of all adults (18 years and older) residing in Olmsted County, Minnesota, from January 1, 1999, through December 31, 2013, to identify definite or possible cases of VGS-IE using the Rochester Epidemiology Project. The National (Nationwide) Inpatient Sample hospital discharge database was examined to determine the number of VGS-IE cases in the United States between 2000 and 2011.

Results: Rates of incidence (per 100,000 person-years) during the intervals of 1999-2002, 2003-2006, 2007-2010, and 2011-2013 were 3.6 (95% CI, 1.3-5.9), 2.7 (95% CI, 0.9-4.4), 0.7 (95% CI, 0.0-1.6), and 1.5 (95% CI, 0.2-2.9), respectively, reflecting an overall significant decrease (P=.03 from Poisson regression). Likewise, nationwide estimates of hospital discharges with a VGS-IE diagnosis trended downward during 2000-2011, with a mean number per year of 15,853 and 16,157 for 2000-2003 and 2004-2007, respectively, decreasing to 14,231 in 2008-2011 (P=.05 from linear regression using weighted least squares method).

Conclusion: Despite major reductions in the number of indications for antibiotic prophylaxis for invasive dental procedures espoused by the 2007 AHA IE prevention guidelines, both local and national data indicate that the incidence of VGS-IE has not increased.

 ■ Mayo Clin Proc. 2015;90(7):874-881

OPEN ACCESS Freely available online Published March 20, 2013 PLOS ONE

Infective Endocarditis in the U.S., 1998–2009: A Nationwide Study

David H. Bor[1], Steffie Woolhandler[2], Rachel Nardin[3], John Brusch[1], David U. Himmelstein[2]*

1 Department of Medicine and Division of Infectious Diseases, Cambridge Health Alliance/Harvard Medical School, Cambridge, Massachusetts, United States of America, **2** School of Public Health, City University of New York, New York, New York, United States of America; and Department of Medicine, Cambridge Health Alliance/Harvard Medical School, Cambridge, Massachusetts, United States of America, **3** Department of Medicine and Division of Neurology, Cambridge Health Alliance/Harvard Medical S

- 1998-2006 ile 2008-2009 yıllarında enterokok dışı streptokoklarda artış saptanmamış
- Hastaneye yatış oranı % 2,4 artış gözlenmiş

Methods and Findings: Using the 1998–2009 Nationwide Inpatient Sample, which provides diagnoses from about 8 million U.S. hospitalizations annually, we examined endocarditis hospitalizations, bacteriology, co-morbidities, outcomes and costs. Hospital admissions for endocarditis rose from 25,511 in 1998 to 38, 976 in 2009 (12.7 per 100,000 population in 2009). The age-adjusted endocarditis admission rate increased 2.4% annually. The proportion of patients with intra-cardiac devices rose from 13.3% to 18.9%, while the share with drug use and/or HIV fell. Mortality remained stable at about 14.5%, as did cardiac valve replacement (9.6%). Other serious complications increased; 13.3% of patients in 2009 suffered a stroke or CNS infection, and 5.5% suffered myocardial infarction. Amongst cases with identified pathogens, Staphylococcus aureus was the most common, increasing from 37.6% in 1998 to 49.3% in 2009, 53.3% of which were MRSA. Streptococci were mentioned in 24.7% of cases, gram-negatives in 5.6% and Candida species in 1.0%. We detected no inflection in hospitalization rates after changes in prophylaxis recommendations in 2007. Mean age rose from 58.6 to 60.8 years; elderly patients suffered higher rates of myocardial infarction and death, but slightly lower rates of Staphylococcus aureus infections and neurologic complications. Our study relied on clinically diagnosed cases of endocarditis that may not meet strict criteria. Moreover, since some patients are discharged and readmitted during a single episode of endocarditis, our hospitalization figures probably slightly overstate the true incidence of this illness.

Conclusions: Endocarditis is more common in the U.S. than previously believed, and is steadily increasing. Preventive efforts should focus on device-associated and health-care-associated infections.

Journal of the American College of Cardiology
Vol. 62, No. 23, 2013
ISSN 0735-1097/$36.00
http://dx.doi.org/10.1016/j.jacc.2013.07.071

Published by Elsevier Inc.

Trends in Hospitalization Rates and Outcomes of Endocarditis Among Medicare Beneficiaries

Behnood Bikdeli, MD,*† Yun Wang, PhD,*‡ Nancy Kim, MD, PhD,*§
Mayur M. Desai, PhD, MPH,*‖¶ Vincent Quagliarello, MD,# Harlan M. Krumholz, MD, SM*†¶**
New Haven, Connecticut; and Boston, Massachusetts

Objectives The aim of this study was to determine the hospitalization rates and outcomes of endocarditis among older adults.

Background Endocarditis is the most serious cardiovascular infection and is especially common among older adults. Little is known about recent trends for endocarditis hospitalizations and outcomes.

Methods Using Medicare inpatient Standard Analytic Files, we identified all fee-for-service beneficiaries age ≥65 years with a principal or secondary diagnosis of endocarditis from 1999 to 2010. We used Medicare Denominator Files to report hospitalizations per 100,000 person-years. Rates of 30-day and 1-year mortality were calculated using Vital Status Files. We used mixed-effects models to calculate adjusted rates of hospitalization and mortality and to compare the results before and after 2007, when the American Heart Association revised their recommendations for endocarditis prophylaxis.

Results Overall, 262,658 beneficiaries were hospitalized with endocarditis. The adjusted hospitalization rate increased from 1999 to 2005, reaching 83.5 per 100,000 person-years in 2005, and declined during 2006 to 2007. After 2007, the decline continued, reaching 70.6 per 100,000 person-years in 2010. Adjusted 30-day and 1-year mortality rates ranged from 14.2% to 16.5% and from 32.6% to 36.2%, respectively. There were no consistent changes in adjusted rates of 30-day and 1-year mortality after 2007. Trends in rates of hospitalization and outcomes were consistent across demographic subgroups. Adjusted rates of hospitalization and mortality declined consistently in the subgroup with a principal diagnosis of endocarditis.

Conclusions Our study highlights the high burden of endocarditis among older adults. We did not observe an increase in adjusted rates of hospitalization or mortality associated with endocarditis after publication of the 2007 guidelines. (J Am Coll Cardiol 2013;62:2217–26) © 2013 by the American College of Cardiology Foundation

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY
VOL. 65, NO. 19, 2015

ISSN 0735-1097/$36.00
PUBLISHED BY ELSEVIER INC.
http://dx.doi.org/10.1016/j.jacc.2015.03.518

Trends in Infective Endocarditis Incidence, Microbiology, and Valve Replacement in the United States From 2000 to 2011

Sadip Pant, MD,* Nileshkumar J. Patel, MD,† Abhishek Deshmukh, MD,‡ Harsh Golwala, MD,* Nilay Patel, MD,§ Apurva Badheka, MD,‖ Glenn A. Hirsch, MD, MHS,* Jawahar L. Mehta, MD, PhD¶

- 2000-2011 yılları arasında hastaneye yatan 457.052 İE olgu
- 2007 AHA rehberinden sonra streptokokal İE olgularında **belirgin artış**
- 2007 AHA rehberinden bağımsız olarak hastaneye yatış ve kapak cerrahisinde artış mevcut

Temporal Trends in the Prevalence of Infective Endocarditis in Germany Between 2005 and 2014

Karsten Keller, MD[a,*], Ralph S. von Bardeleben, MD[b], Mir A. Ostad, MD[b], Lukas Hobohm, MD[a,b], Thomas Munzel, MD[a,b,c], Stavros Konstantinides, MD[a], and Mareike Lankeit, MD[a,d]

94364 İE olgu

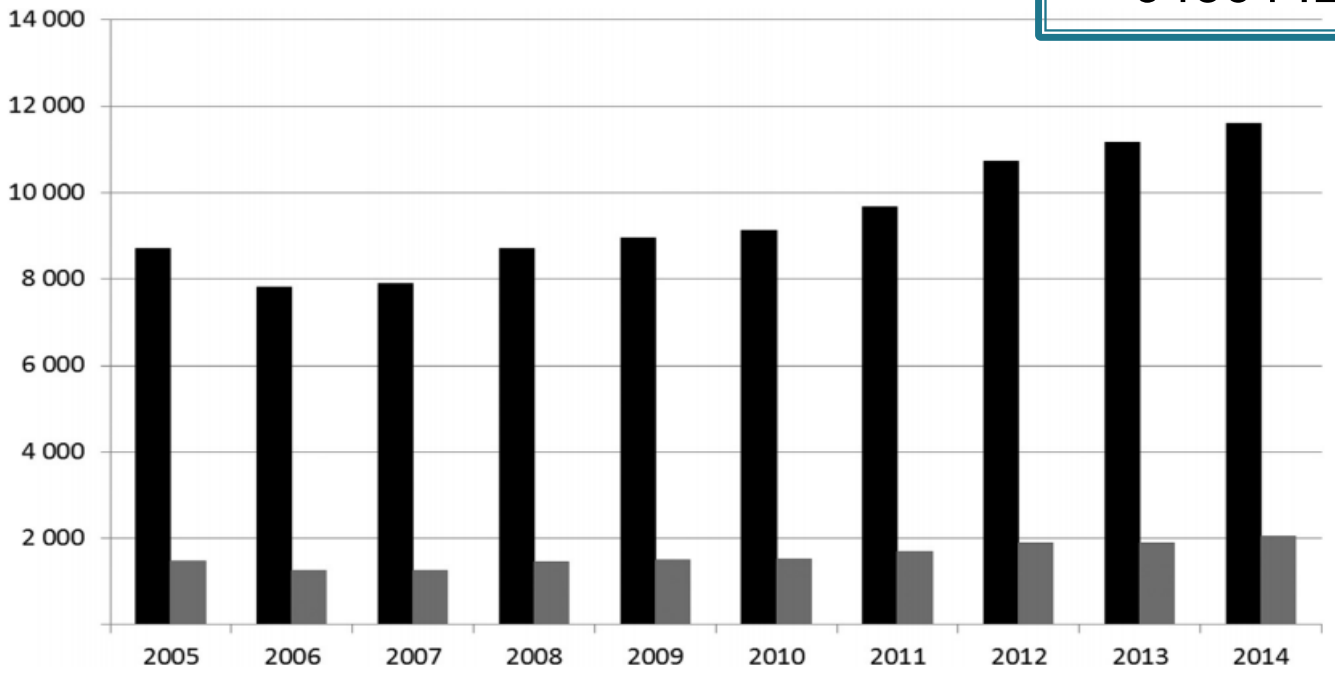


Figure 1. Total annual numbers of infective endocarditis (ICD code I33, *black bars*) and in-hospital deaths (*gray bars*) in Germany over a 10-year period from 2005 to 2014.

Table 1 Current guidelines on antibiotic prophylaxis to prevent infective endocarditis (IE)

2007 AHA Guidelines	2015 ESC Guidelines	2015 NICE Guidelines with 2016 Amendment
Those Recommended for Antibiotic Prophylaxis Cover		
Those at highest risk of an adverse outcome from IE	Those at highest risk of IE undergoing a high-risk procedure	Antibiotic prophylaxis against infective endocarditis is not recommended routinely for people undergoing dental [or other] procedures. ('routinely' added 2016)
Those at Highest Risk of Adverse Outcome from IE	**Those at Highest-Risk of IE**	**Those At Risk of Developing IE**
• Prosthetic cardiac valve or prosthetic material used for valve repair • Previous IE • Unrepaired cyanotic CHD, including palliative shunts and conduits • Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or catheter intervention during the first 6 months after the procedure • Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch • Cardiac transplantation recipients who develop valvulopathy	• Patients with any prosthetic valve, including a transcatheter valve, or those in whom any prosthetic material was used for cardiac valve repair • Patients with a previous episode of IE • Any type of cyanotic CHD • Any type of CHD repaired with a prosthetic material, whether placed surgically or by percutaneous techniques, up to 6 months after the procedure or lifelong if residual shunt or valvular regurgitation remains after the procedure	• Acquired valvular heart disease with stenosis or regurgitation • Valve replacement • Structural congenital heart disease, including surgically corrected or palliated structural conditions, but excluding isolated atrial septal defect, fully repaired ventricular septal defect or fully repaired patent ductus arteriosus, and closure devices that are judged to be endothelialised • Previous infective endocarditis • Hypertrophic cardiomyopathy.

2007 AHA Guidelines	2015 ESC Guidelines	2015 NICE Guidelines with 2016 Amendment
High-Risk Procedures for which Antibiotic Prophylaxis Should Be Considered		
• All dental procedures that involve manipulation of the gingival tissue or the periapical region of teeth or perforation of the oral mucosa*. • Procedures on respiratory tract or infected skin, skin structures or musculoskeletal tissue.	• Antibiotic prophylaxis should only be considered for dental procedures requiring manipulation of the gingival or periapical region of the teeth or perforation of the oral mucosa*.	• Advice not given
Recommended Antibiotic Prophylaxis Regimen (for those not allergic to penicillin)		
Amoxicillin 2g orally 30-60 mins before the procedure**	Amoxicillin 2g orally 30-60 mins before the procedure**	Advice not given
Recommended Antibiotic Prophylaxis Regimen for those Allergic to Penicillin		
Clindamycin 600mg orally 30-60 mins before the procedure**	Clindamycin 600mg orally 30-60 mins before the procedure**	Advice not given

ÖZET

- Yüksek riskli hastalara invazif dental girişim yapmadan önce antibiyotik profilaksi uygulanmalı
- Rehberlerdeki önerilerin etkinliğini uzun vadeli olarak değerlendirmek için iyi tasarlanmış prospektif gözlemsel çalışmalara ihtiyaç vardır


TEŞEKKÜR
EDERİM :)