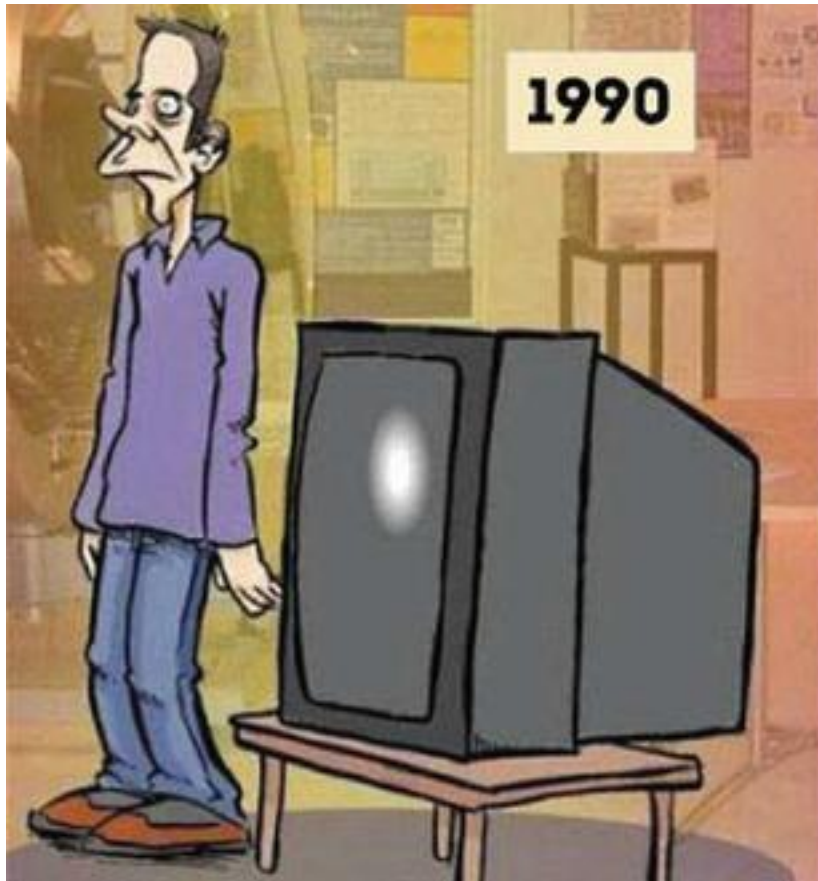


Nozokomiyal Endokardit

Dr Şirin Menekşe
Kartal Koşuyolu Yüksek İhtisas Hastanesi



Infective endocarditis: changing aetiology of disease

K. Fitzsimmons, A. I. Bamber & H. B. Smalley

HEART REVIEW

The changing face of infective endocarditis

B D Prendergast



The Changing Epidemiology of Infective Endocarditis in the Twenty-First Century

J Ambrosioni¹ • M Hernandez-Meneses¹ • A Téllez¹ • J Pericàs¹ • C. Falces² • JM Tolosana² • B. Vidal² • M. Almela³ • E. Quintana⁴ • J. Llopis⁵ • A. Moreno¹ • José M. Miro¹ • the Hospital Clinic Infective Endocarditis Investigators

Trends in Infective Endocarditis in California and New York State, 1998-2013

Nana Toyoda, MD; Joanna Chikwe, MD; Shinobu Itagaki, MD, MS; Annetine C. Gelijns, PhD;
David H. Adams, MD; Natalia N. Egorova, PhD

Romatizmal kalp
hastalıkları



Dejeneratif kalp hastalıkları
IV ilaç kullanımı
HD
Protez kapak replasmanı

Streptokoklar



Stafilokoklar

Genç



Yaşlılar

Nozokomiyal Endokardit-Tanım

- Başvuruda endokardit bulgusu olmayan
- Hospitalizasyondan 72 saat sonra gelişen İE

veya

- 8 hafta önce hastanede yatış öyküsü + yüksek riskli işlem

Francischetto et al. Healthcare-Associated Infective Endocarditis: a Case Series in a Referral Hospital from 2006 to 2011 . Arq Bras Cardiol. 2014; 103(4):292-298

Martín-Da' vila et al. Nosocomial Endocarditis in a Tertiary Hospital. Chest 2005; 128:772-779

Hwang et al. Risk factors for poor prognosis in nosocomial infective endocarditis The Korean Journal of Internal Medicine. 2017 Jun 2

Olgu 1

- D.Ç, 46 yaşında, kadın hasta, obezite
- 01.06.2017 'de MVR
- 26.06.2017'de 3 günlük ateş, nefes darlığı şikayeti ile yatış
- Mitral kapakta vejetasyon
- Kan kültüründe MRSA
- Yatışının 9.günüde exitus

Olgu 2

- M.Ş,51 y,erkek hasta
- 29.06.2016-**13.10.2016** ateşli silah yaralanması sonrası sağ orbital hematom, SAK ve temporal fraktür nedeni ile YBÜ'de yatış öyküsü
- BOS kültüründe VRE (+), 3 kez EVD kateter değişimi sonrası VP şant operasyonu
- BAL ve kan kültüründe *K.pneumoniae* (Kolistin R)
- Kan kültüründe MRSA
- İdrar kültüründe *A.baumannii* (Kolistin ve tigesiklin S)
- **01. Şubat.2017** halsizlik, bulantı-kusma, ishal, sol bacakta ağrı ile hospitalize

Olgu 2

- ▶ Yatışının 10.gününde ateş, bilinç bulanıklığı, kusma , nöbet geçirme, karın ve sol bacakta ağrı
- ▶ Yatışının 14.gününde Enfeksiyon Hastalıkları konsultasyonu

Olgu 2

TTE: Mitral kapakta 2 adet vejetasyon

- Meropenem 3x1 gr 3 saatlik infüzyon
- Kolistin 300 mg yükleme, 2x150 mg idame
- Daptomisin 1x500 mg

Olgu 2

- Kan kültürü: MRKNS
- Kan ve Kapak kültüründe

→ *C.tropicalis*

Hospital-Acquired Infective Endocarditis: Should the Definition be Broadened?

Ronen Ben-Ami,¹ Michael Giladi,¹ Yehuda Carmeli,^{1,2} Ruth Orni-Wasserlauf,¹ and Yardena Siegman-Igra¹

¹Infectious Diseases Unit and ²Department of Epidemiology, Tel Aviv Sourasky Medical Center, Sackler School of Medicine, Tel Aviv University, Israel

Table 1. Frequencies of bacterial isolates among patients with infective endocarditis (IE), by patient group.

Isolate, by class and type	Patient group, no. (%) of isolates			P	
	Hospital-acquired IE (15 episodes)	Recently hospitalized (23 episodes)	True community-acquired IE (49 episodes)	Hospital-acquired IE vs. recently hospitalized	Recently hospitalized vs. community-acquired IE
Community-acquired					
Viridans streptococci	1 (7)	0 (0)	18 (36)	.3	<.001
<i>Streptococcus bovis</i>	1 (7)	5 (22)	9 (18)	.3	.7
Group B <i>Streptococcus</i>	0 (0)	0 (0)	1 (2)	1.0	1.0
<i>Actinobacillus</i> species	0 (0)	0 (0)	1 (2)	1.0	1.0
MSSA ^a	1 (7)	6 (26)	10 (20)	.2	.7
Nosocomial					
MRSA ^a	3 (20)	2 (9)	0 (0)	.3	.09
EGNB	2 (13)	1 (4)	0 (0)	.5	.3
CoNS	2 (13)	3 (13)	0 (0)	1.0	.03
Subtotal of nosocomial isolates	7 (47)	6 (26)	0 (0)	.2	.001
Other					
<i>Enterococcus</i> species	4 (27)	7 (30)	10 (20)	1.0	.3
<i>Listeria</i> species	1 (7)	1 (4)	0 (0)	1.0	.3
Diphtheroid	0 (0)	0 (0)	1 (2)	1.0	1.0
Total	15 (100)	25 (100)	50 (100)		

Hospital-Acquired Infective Endocarditis: Should the Definition be Broadened?

Ronen Ben-Ami,¹ Michael Giladi,¹ Yehuda Carmeli,^{1,2} Ruth Orni-Wasserlauf,¹ and Yardena Siegman-Igra¹

¹Infectious Diseases Unit and ²Department of Epidemiology, Tel Aviv Sourasky Medical Center, Sackler School of Medicine, Tel Aviv University, Israel

Hospital-acquired infective endocarditis (IE) is a growing health-care problem. Hospital-acquired IE, according to the commonly used definition, is IE manifesting ≥ 72 h after admission to the hospital or within several weeks after a hospital-based invasive procedure. To assess the validity of this definition, we evaluated 87 episodes of IE, with special attention to recent hospitalizations. The incidence rate of IE in the 6-month period after discharge from the hospital was 27 cases per 100,000 person-years, compared with 1.1 cases per 100,000 person-years in a population with no recent hospitalizations. Furthermore, episodes of IE manifesting during this 6-month period were notable for a high proportion of typically hospital-acquired pathogens (26% vs. 0%; $P = .001$) and a low proportion of viridans streptococci (0% vs. 36%; $P < .001$), compared with community-acquired episodes that did not involve recent hospitalization. We conclude that characteristics of hospital-acquired IE extend to episodes arising within 6 months after discharge from the hospital and suggest that the definition of hospital-acquired IE be broadened to include these episodes.

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Noureddine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

- Hospitalizasyonundan > 48 saat sonra ortaya çıkan İE
veya
- Tanı konulmadan 6 ay önce İE ilişkili invazif prosedür yapılmış olması
- Uzun süre nozokomiyal suş ile kolonizasyon
- Uzun inkübasyon süresi olan mikroorganizmalar (Koagulaz negatif stafilokoklar vb)

Olgu 3

- M. Ş. 64 yaşında, erkek hasta
- KBY , HD programında, kalıcı diyaliz katateri
- Ampirik Vankomisin+ Gentamisin
- Trikuspit endokarditi
- 3/4 kültürde *Stenotrophomonas maltophilia*
- Yatışının 12. gününde Levofloksasin ilk gün 1x750 idame 48 saatte bir 1x500 başlanması
- 43. günde ex

Yeni Tanımlama İhtiyacı

- Nozokomiyal İE= Hospitalize hasta yada yakın zamanlı yatışı olan hasta
- Kronik bakım merkezleri = Non-nozokomiyal Sağlık Bakım İlişkili İE

Non-nozokomiyal Sağlık Bakım İlişkili İE

- Hospitalizasyonunun öncesinde veya ilk 48 saatinde saptanan ve aşağıdaki kriterlerden en az birini karşılayan
- İE semptomlarının başlamasından 30 gün içinde IV tedavi, yara bakımı, IV Kemoterapi, HD tedavisi almak
- Akut bakım merkezinde 90 gün içinde 2 veya daha fazla gün kalmış olmak
- Uzun süreli bakım merkezinde kalmak

Contemporary Epidemiology and Prognosis of Health Care–Associated Infective Endocarditis

Nuria Fernández-Hidalgo,¹ Benito Almirante,¹ Pilar Tornos,² Carles Pigrau,¹ Antonia Sambola,² Albert Igual,³ and Albert Pahisa¹

Departments of ¹Infectious Diseases, ²Cardiology, and ³Cardiac Surgery, Hospital Universitari Vall d'Hebron, Universitat Autònoma de Barcelona, Barcelona, Spain

- Prospektif, gözlemsel kohort çalışması
- İspanya, **Kalp ve Damar Cerrahi Hastanesi**, 2000-20007 yılları
- Nozokomiyal İE: Semptomları 48 saat sonrasında başlaması veya **6 ay içinde hastanede yatış öyküsü**
- Non-nozokomiyal İE: Semptomlar başlamadan 6 ay önce tanısal veya tedavi amaçlı işlem öyküsü
- 292 İE epizodu, 289 hasta,
- 83 hasta (**%28.4**) **sağlık bakım ilişkili**
- **67(%22.9) nozokomiyal İE**, 16(%5.5) non-nozokomiyal İE

Trends in Infective Endocarditis in California and New York State, 1998-2013

Nana Toyoda, MD; Joanna Chikwe, MD; Shinobu Itagaki, MD, MS; Annetine C. Gelijns, PhD;
David H. Adams, MD; Natalia N. Egorova, PhD

- Retrospektif, Kalifornia , New York, 1998-2014
- Nozokomiyal İE: Yatışından 48 saat sonra İE semptomu
- Non-nozokomiyal İE: Semptomlar başlamasından 30 gün önce sağlık merkezlerinden ayaktan hizmet almak veya 90 gün içinde 2 veya daha fazla gün hospitalizasyon öyküsü
- 75.829 İE, 40 128 (%52.9) Sağlık Bakım İlişkili İE,
- 13 304 (%17.5) nozokomiyal,
- 26 824 (%35.4) non-nozokomiyal



Infective endocarditis in Turkey: aetiology, clinical features, and analysis of risk factors for mortality in 325 cases



Serap Şimşek-Yavuz ^{a,*}, Ayfer Şensoy ^b, Hulya Kaşıkçıoğlu ^c, Sabahat Çeken ^b, Deneş Deniz ^b, Atilla Yavuz ^d, Funda Koçak ^e, Kenan Midilli ^f, Mehmet Eren ^c, İbrahim Yekeler ^g

- 2000-2013 yılları arasında 325 hasta
- Sağlık Bakım İlişkili İnfektif Endokardit: 75/325 (%23.1)
- Nozokomiyal İnfektif Endokardit : 33/325 (%10.2)
- Non-nozokomiyal İnfektif Endokardit: 42/325 (%12.9)

Bizim Merkezimizde

- Ocak 2011- Eylül 2017 yılları
- 162 İE olgusu
- 64 hasta SBI (%39.5)
- 23 hasta 2017 yılı

Yayınlanmamış veri

ASLINDA ÇOK DAHA BÜYÜK PROBLEM



NNHA-İE ASLINDA ATLANIYOR!!!

Yanlış tanı

- Cilt ve yumuşak doku infeksiyonu
- Katater İlişkili İnfeksiyon
- Pnömoni
- Üriner Sistem İnfeksiyonu
- Nedeni Bilinmeyen Ateş
- Menenjit

Intern Emerg Med (2014) 9:715–716
DOI 10.1007/s11739-014-1105-4

IM - COMMENTARY

Nosocomial endocarditis: still a challenging diagnosis

Emanuele Durante-Mangoni · Riccardo Utili

Infective and non-infective endocarditis in critically ill patients: a clinical–pathological study

Giorgio Berlot • Cristina Calderan •

- Kardiyo-vasküler semptomlar yoğunbakım hastasında septik şok, kalp yetmezliği gibi durumlara bağlanabilmekte
- Nörolojik bulgular sedasyona bağlı olarak saptanamayabilmekte

Infective and non-infective endocarditis in critically ill patients: a clinical–pathological study

Giorgio Berlot • Cristina Calderan •

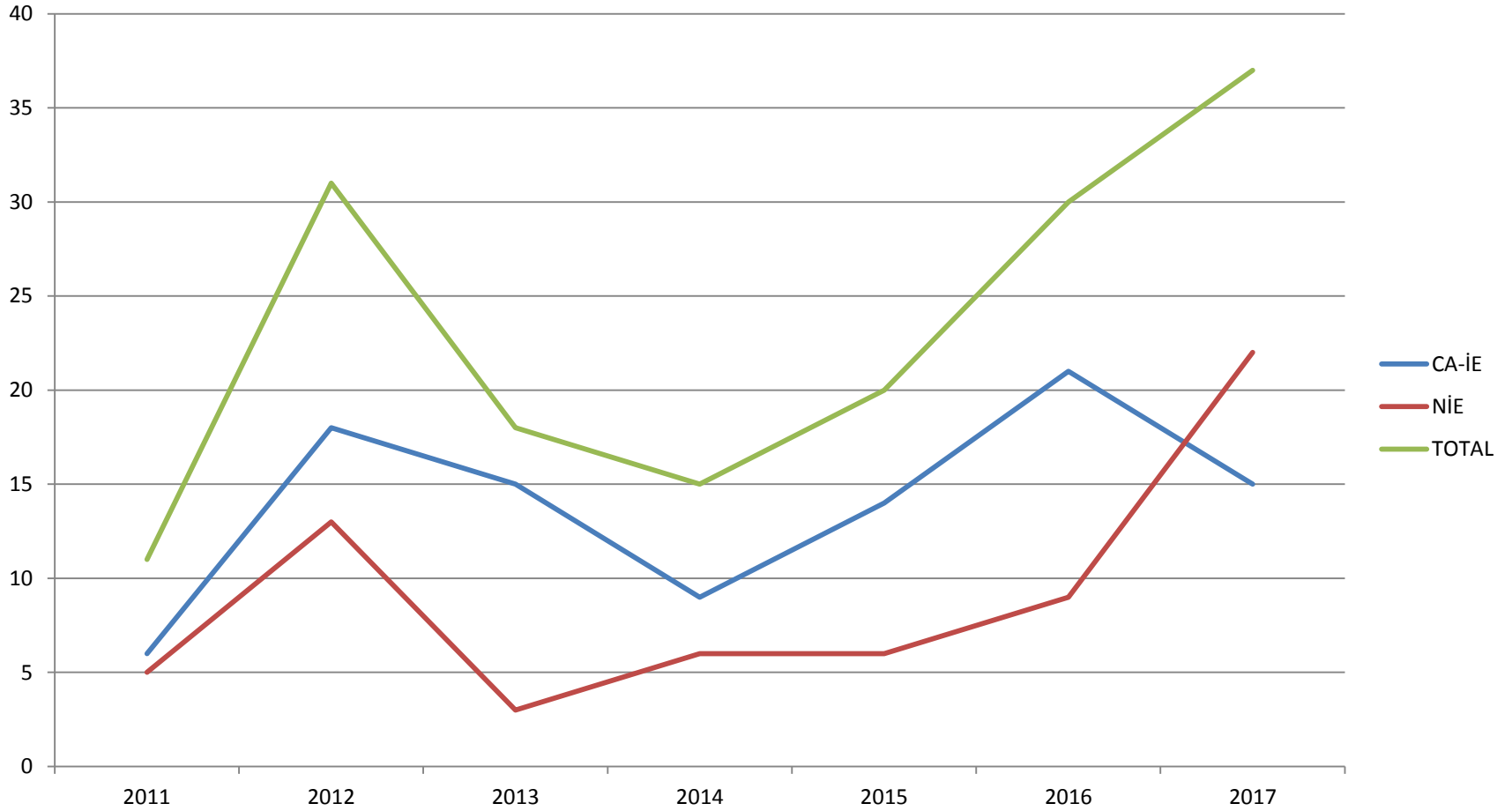
- 765 Yoğun Bakım hastası, otopsi çalışması
- 21 (%2.7) vejetasyon
- 9 Non-İnfektif Endokardit, 12 İE (9+9 doğal kapak)
- Multipl periferel emboli
- Öncesinde 3 hastada tanı konuluyor, 2 hastada şüpheleniliyor

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Nouredine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

- Prospektif, çok merkezli (7 merkez) kohort çalışma
- Erken protez kapak endokarditler çalışma dışı
- 127 /793 (%16) sağlık bakım ilişkili (%79.5'i nozokomiyal)
- Sağlık Bakım İlişkili İnfektif endokardit insidansı artmakta
- 1984-1995 : %13.3 (26/195)
- 1996-2000 : %15 (28/186)
- 2001-2007 : %17.7 (73/412)

Bizim Merkezimizde



Artışın Sebebi??

- Tanısal testler (TEE, mikrobiyolojik yöntemler)
- Tanımlamada değişiklik
- Yaşlanmış populasyon ve degeneratif kapak hastalığının insidansında artış
- Yoğunbakımda takip edilen hasta sayısının artması
- İnvazif vasküler işlemler
- Nozokomiyal kan dolaşımı infeksiyonunun artması

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Nouredine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

TABLE 2. Source of infection in patients with healthcare-associated infective endocarditis

Medical procedures	n (%)
Vascular	
Catheter-related	61 (48)
Haemodialysis	21
Peripheral vein catheter	20
Several procedures	12
Central vein catheter	8
Implanted cardiac devices	6 (4.7)
Coronary arteriography	7 (5.5)
Cardiovascular surgery	4 (3.1)
Carotid angioplasty	1 (0.8)
Pulmonary stent	1 (0.8)
Total	80 (63)
Others	
Digestive	19 (15)
Urinary	18 (14.2)
Skin and soft tissue	5 (3.9)
Several procedures	2 (1.6)
Maxillofacial	1 (0.8)
Osteoarticular	1 (0.8)
Non-identified	1 (0.8)
Total	47 (37)

Bizim Merkezimizde

Medikal İşlem	Hasta sayısı
Kardiyovasküler Cerrahi	22
HD	16
Santral Katater	11
KAG	6
Pace	1
Ekos	1
Sol Ventrikül Destek Cihazı	1
Karotis Stent	1
GÜS Girişimi	3
GİS Girişimi	1
Diyabetik Ayak	1

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Noureddine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

TABLE 3. Microorganisms causing healthcare-associated and community-acquired infective endocarditis

HAIE Variables, n (%)	Patients with			All patients with IE		
	NHAIE (n = 101)	p	NNHAIE (n = 26)	HAIE (n = 127)	p	CAIE (n = 666)
<i>Staphylococcus aureus</i>	33 (32.6)	0.4	6 (23)	39 (30.7)	<0.001	113 (17)
MSSA	21 (20.8)	0.7	6 (23)	27 (21.3)	0.2	112 (16.8)
MRSA	12 (11.9)	0.7	–	12 (9.4)	<0.001	1 (0.2)
CoNS	23 (22.7)	0.01	12 (46)	35 (27.6)	<0.001	52 (7.8)
<i>Streptococcus viridans</i>	3 (3)	1	–	3 (2.4)	<0.001	181 (27.2)
<i>Enterococcus faecalis</i>	21 (20.8)	0.07	1 (3.8)	22 (17.3)	0.1	68 (10.2)
<i>Streptococcus bovis</i>	1 (1)	1	–	1 (0.8)	0.03	33 (5)
<i>Streptococcus agalactiae</i>	3 (3)	1	–	3 (2.4)	0.9	17 (2.6)
Other <i>Streptococcus</i> species	–	NA	–	–	0.02	24 (3.6)
Culture-negative IE	6 (5.9)	0.3	3 (11.5)	9 (7.1)	0.1	73 (11)
EGNB	5 (5)	>0.05	1 (4)	6 (4.7)	0.1	17 (2.6)
Fungi	3 (3)	1	1 (4)	4 (3.1)	<0.01	3 (0.4)
Polymicrobial	4 (4)	1	1 (4)	5 (3.9) ^a	0.3	16 (2.4) ^b
<i>Coxiella burnetii</i>	–	NA	–	–	0.05	19 (2.9)
<i>Brucella</i> species	–	NA	–	–	0.1	12 (1.8)
HACEK group infections	–	NA	–	–	0.1	11 (1.7)

Etken	Hasta Sayısı (46/64)
MRSA	8
MSSA	6
MRKNS	10
Enterokok	4
<i>Streptekok</i>	2
<i>Klebsiella</i>	2
Stenotrophomonas	2
<i>Proteus</i>	1
<i>Pseudomonas</i>	1
<i>Citrobacter</i>	1
<i>Kocuria</i>	1
<i>Corynebacterium</i>	1
Difteroid	1
<i>Candida</i>	2
MRKNS + <i>E.coli</i>	1

Risk factors for poor prognosis in nosocomial infective endocarditis

Ji-won Hwang¹, Seung Woo Park¹, Eun Jeong Cho², Ga Yeon Lee¹, Eun Kyoung Kim¹, Sung-A Chang¹, Sung-Ji Park¹, Sang-Chol Lee¹, Cheol-In Kang³, Doo Ryeon Chung³, Kyong Ran Peck³, and Jae-Hoon Song³

Table 1. Baseline clinical characteristics and clinical outcomes of NIE compared with CIE

Characteristic	CIE (n = 439)	NIE (n = 121)	p value
Age, yr	51.30 ± 18.01	59.76 ± 14.87	< 0.001
Underlying medical disease			
Liver cirrhosis	14 (3.2)	13 (10.7)	0.002
Alcoholism	8 (1.8)	4 (3.3)	0.300
Diabetes mellitus	32 (7.3)	16 (13.2)	0.045
Chemotherapy	16 (3.6)	35 (28.9)	< 0.001
Malignancy	32 (7.3)	52 (43.0)	< 0.001
Chronic kidney disease	22 (5.0)	20 (16.5)	< 0.001
Hemodialysis	15 (3.4)	19 (15.7)	< 0.001
Solid organ transplantation	1 (0.2)	1 (0.8)	0.390
Coronary artery disease	13 (3.0)	7 (5.8)	0.160
Rheumatologic disease	4 (0.9)	2 (1.7)	0.620
Underlying cardiac condition			
Congenital heart disease	95 (21.6)	5 (4.1)	< 0.001
Prosthetic valve	84 (19.1)	17 (14.0)	0.230
Native valve	329 (74.9)	102 (84.3)	0.038
Central intravenous catheter	9 (2.1)	40 (33.1)	< 0.001
Past history of infective endocarditis	31 (7.1)	3 (3.3)	0.200

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Nouredine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

TABLE 4 Complications in patients with healthcare-associated and community infective endocarditis

HAIE Variables, n (%)	Patients with			All patients with IE		
	NHAIE (n = 101)	p	NNHAIE (n = 26)	HAIE (n = 127)	p	CAIE (n = 666)
Severe HF	26 (25.7)	0.8	6 (23)	32 (25.2)	<0.01	96 (14.4)
Embolic manifestations	30 (29.7)	0.01	14 (54)	44 (34.6)	0.1	276 (41.4)
Septic shock	20 (19.8)	0.1	8 (30.7)	28 (22)	<0.001	71 (10.7)
Renal failure ^a	51 (50.5)	0.4	3 (60)	54 (50.5)	<0.001	161 (24.2)
CNS events	29 (28.7)	0.06	12 (46)	41 (32.3) ^b	0.1	194 (29.1)
Intrahospital mortality	42 (41.5)	0.2	15 (57.7)	57 (44.9)	<0.001	161 (24.2)

IE, infective endocarditis; NHAIE, nosocomial healthcare-associated IE; NNHAIE, non-nosocomial healthcare-associated IE; HAIE, healthcare-associated IE; CAIE, community-acquired IE; HF, heart failure; CNS, central nervous system.

^aExcluding haemodialysis patients.

^bEmbolic stroke, 22 (17.3%); encephalopathy, 16 (12.6%); mycotic aneurism, two (1.7%); acute meningitis, one (0.8%).

Healthcare-associated infective endocarditis: an undesirable effect of healthcare universalization

J. M. Lomas¹, F. J. Martínez-Marcos¹, A. Plata², R. Ivanova³, J. Gálvez⁴, J. Ruiz³, J. M. Reguera², M. Nouredine⁵, J. de la Torre⁵ and A. de Alarcón⁶ on behalf of the Grupo Andaluz para el Estudio de las Infecciones Cardiovasculares (Andalusian Group for the Study of Cardiovascular Infections) at the Sociedad Andaluza de Enfermedades Infecciosas (SAEI)

TABLE 6. Factors associated with intrahospital mortality of patients with episodes of healthcare-associated infective endocarditis (HAIE)

Variable	Death (n = 57)	Survival (n = 70)	Univariate analysis p	Multivariate analysis OR (95% CI)
Age (average ± SD)	62.7 ± 12.5	58 ± 15.5	0.06	
Charlson index	3.6 ± 2.2	3.1 ± 2.3	0.2	
<i>Staphylococcus aureus</i> , n (%)	24 (42.1)	15 (21.4)	<0.01	
MRSA, n (%)	9 (15.8)	3 (4.3)	0.02	
Severe heart failure, n (%)	22 (38.6)	10 (14.3)	<0.01	
Septic shock, n (%)	24 (42.1)	4 (5.7)	<0.001	2.2 (2.94–30.28)
Renal failure ^a , n (%)	29 (50.9)	25 (35.7)	0.08	
CNS event, n (%)	23 (40.4)	18 (25.7)	0.07	
Embolitic manifestations, n (%)	22 (38.6)	22 (31.4)	0.3	
In-hospital surgery, n (%)	22 (38.6)	29 (41.4)	0.7	
Surgery not performed ^b , n (%)	15 (26.3)	3 (4.3)	<0.001	1.6 (1.23–20.09)

CNS, central nervous system; MRSA, methicillin-resistant *S. aureus*; SD, standard deviation.

^aExcluding haemodialysis patients.

^bSurgery indicated but not performed.

KEY MESSAGE

1. It is important that clinicians, particularly those in tertiary care hospital centers where a great number of ambulatory procedures are performed, be aware of the risk of endocarditis in patients who have undergone invasive procedures that could potentially cause bacteremia.
2. Prompt diagnosis by echocardiography and active management would be warranted if nosocomial infective endocarditis is suspected.

Farkındalık + Şüphe  Erken Tanı

Nozokomiyal Bakteriyemi  Nozokomiyal endokardit

Clinical Management of *Staphylococcus aureus* Bacteremia

Thomas L. Holland, MD^{1,2}, Christopher Arnold, MD¹, and Vance G. Fowler Jr, MD, MHS^{1,2}

Key Take-Home Messages

All patients with *S. aureus* bacteremia should be evaluated with echocardiography. Transesophageal echocardiography is preferred, but it may be possible to identify a low-risk group of patients for whom transthoracic echocardiography is adequate. This low-risk group could include all of the following: a) nosocomial acquisition of bacteremia; b) sterile follow-up blood cultures; c) no permanent intracardiac device; d) no hemodialysis dependence; and e) no clinical signs of endocarditis or secondary foci of infection.

Vancomycin and daptomycin are first-line antibiotic options for MRSA bacteremia.

For patients meeting a stringent definition of uncomplicated MRSA bacteremia, at least 14 days of antibiotic therapy from the first negative culture may be adequate. For all others, a longer course (e.g. 4–6 weeks) is recommended.

The search for endocarditis in patients with candidemia: a systematic recommendation for echocardiography?

A prospective cohort

A. Fernández-Cruz^{1,6} • M. Cruz Menárguez¹ • P. Muñoz^{1,3,4,5} • M. Pedromingo¹ •

Eur J Clin Microbiol Infect Dis

DOI 10.1007/s10096-015-2384-z

- 263 kandidemi hastası
- 187 hasta eko
- 11 hastada vejetasyon (tüm hastaların %4.2, eko yapılan hastaların %5.9) , 3'ünde klinik kuşku yok, 4'ü protez kapak
- TTE ile %2.9(5/172), TEE ile %11.5 (10/87)
- Sonuç: Kandidemili hastalarda ekokardiyografi planlanmalı

Aklımızda Kalanlar

- Nozokomiyal ve non-nozokomiyal İE insidansı artmakta
- İleri yaş ve komorbid hastalığı olanlarda daha sık
- Nozokomiyal bakteriyemilerde İE açısından alert olunmalı
- İE tanısı ile tedavi başlarken özellikle 6 ay öncesi iyi sorgulanmalı
ve ampirik tedavide göz önünde bulundurulmalı

TEŞEKKÜRLER

İE Healthcare-Associated

- Kapak cerrahisi yapılan ilk 1 yıl
- Pacemaker, implante edilen cihaz ilk yıl

Healthcare-Associated Infective Endocarditis: a Case Series in a Referral Hospital from 2006 to 2011

- Nozokomiyal İE Mortalite : %28.6 (14/49)
- Non-nozokomiyal İE Mortalite : %53 (8/15)
- Sağlık Bakım İlişki İE Mortalite : %34.3 (22/64)

Surgical Site Infection (SSI) Event



*Procedure-associated Module
SSI*

Surgical Site Infection (SSI) Event

Organ/Space SSI

Must meet the following criteria:

Date of event for infection occurs within 30 or 90 days after the NHSN operative procedure (where day 1 = the procedure date) according to the list in [Table 2](#)

AND

infection involves any part of the body deeper than the fascial/muscle layers, that is opened or manipulated during the operative procedure

AND

patient has at least one of the following:

- a. purulent drainage from a drain that is placed into the organ/space (e.g., closed suction drainage system, open drain, T-tube drain, CT guided drainage)
- b. organisms are identified from an aseptically-obtained fluid or tissue in the organ/space by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
- c. an abscess or other evidence of infection involving the organ/space that is detected on gross anatomical or histopathologic exam, or imaging test evidence suggestive of infection.

AND

meets at least one criterion for a specific organ/space infection site listed in [Table 3](#). These criteria are found in the [Surveillance Definitions for Specific Types of Infections](#) chapter.

90-day Surveillance	
Code	Operative Procedure
BRST	Breast surgery
CARD	Cardiac surgery
CBGB	Coronary artery bypass graft with both chest and donor site incisions
CBGC	Coronary artery bypass graft with chest incision only
CRAN	Craniotomy
FUSN	Spinal fusion
FX	Open reduction of fracture
HER	Herniorrhaphy
HPRO	Hip prosthesis
KPRO	Knee prosthesis
PACE	Pacemaker surgery
PVBY	Peripheral vascular bypass surgery
VSHN	Ventricular shunt

Note: Superficial incisional SSIs are only followed for a 30-day period for all procedure types.