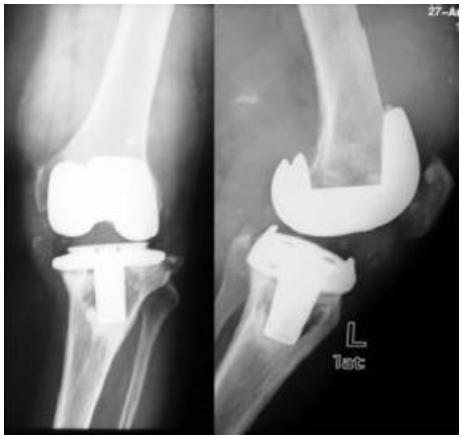
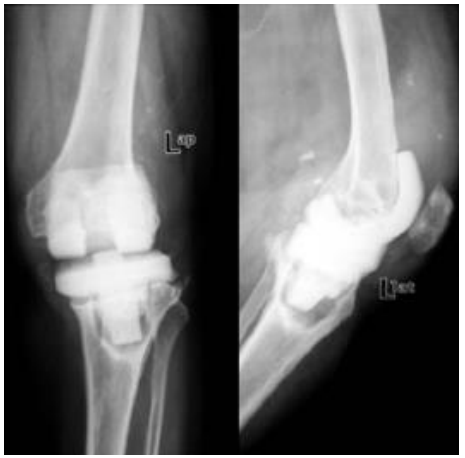
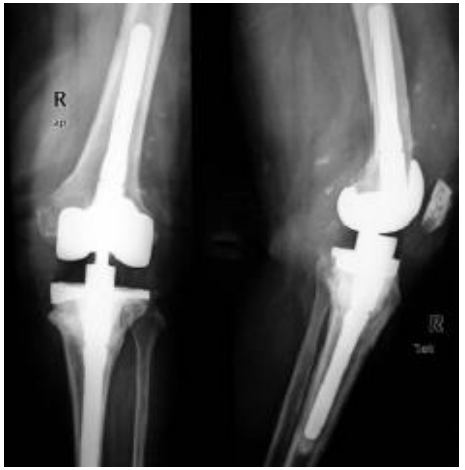
EKLEM PROTEZİ İNFEKSİYONLARI

Dr. Suzan SAÇAR

Çanakkale Onsekiz Mart Üniversitesi







OLGU 1

- 74 y, E
- 38.9 °C
- sol diz ağrısı

- Özgeçmiş:
  - Osteoartrit (+)
  - Prostat kanseri (+)
  - Sol diz artroplastisi

FM:

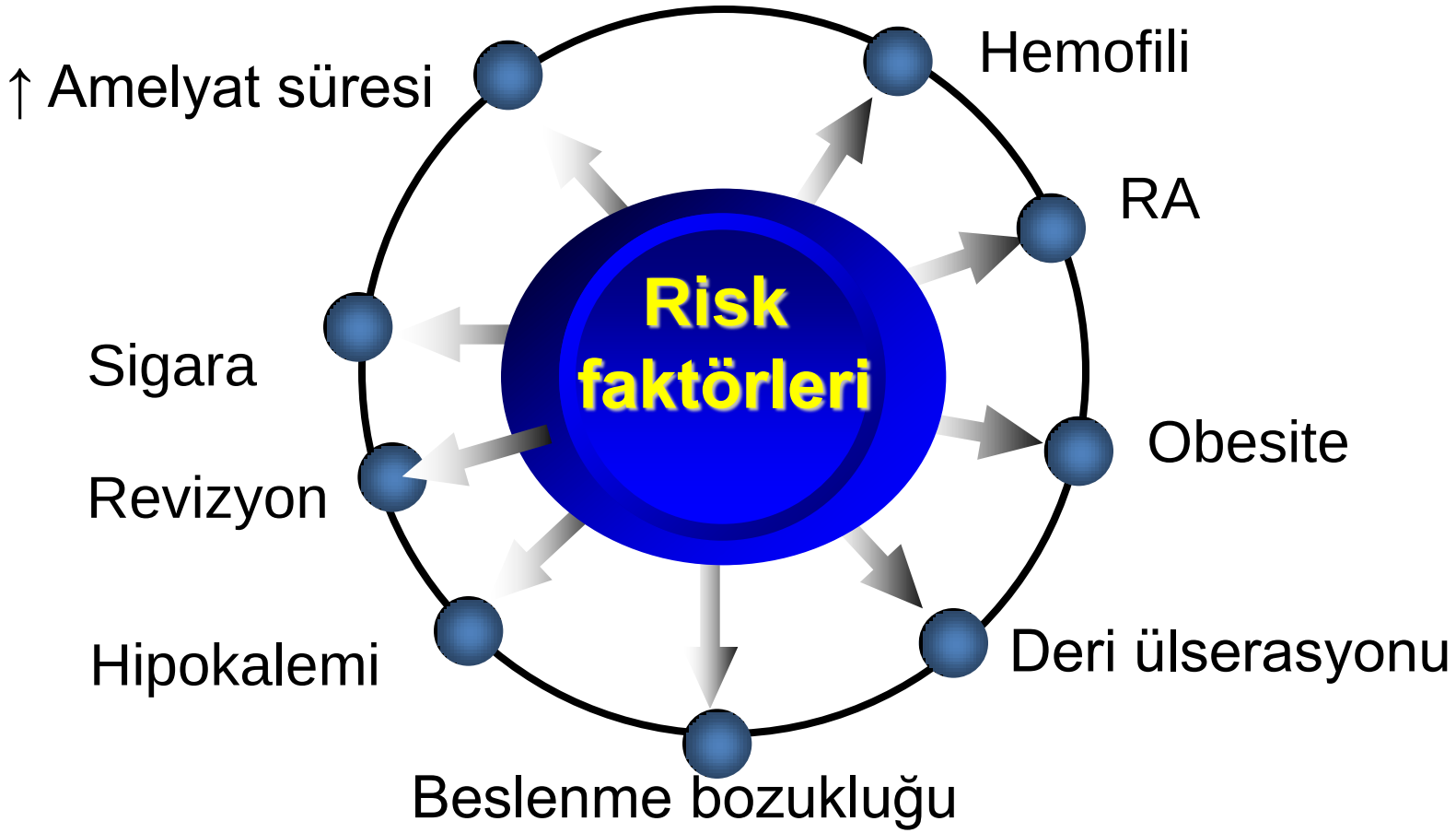
- Sol dizde şişlik, sıcaklık ve kızarıklık

Eklem Protezi Enfeksiyonu

1. Erken eklem protezi infeksiyonu
2. Gecikmiş eklem protezi infeksiyonu
3. Geç eklem protezi infeksiyonu

Zimmerli W. Prosthetic-joint-associated infections.
Best Pract Res Clin Rheumatol 2006

Diz Protez İnfeksiyonu için Risk Faktörleri

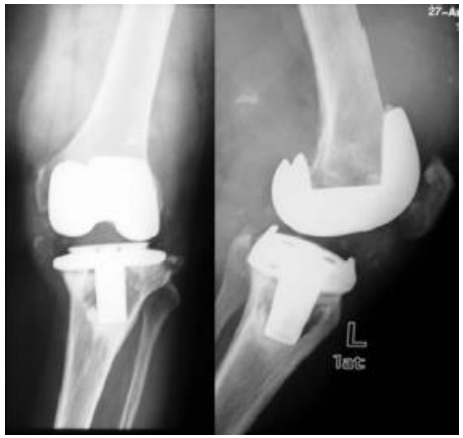


Silva M et al. Bone Joint Surg Am 2005
Bengston S et al. Clin Orthop Relat Res 1989
Chan P et al, Curr Orthop 2005
Wilson MG et al, J Bone Joint Surg Am 1990
Peersman G et al, Clin Orthop Relat Res 2001

Preoperatif Değerlendirme

Kan kültürü

Diagnostik artrosentez



Direk grafi

Sinüs traktüsü

Akıntı

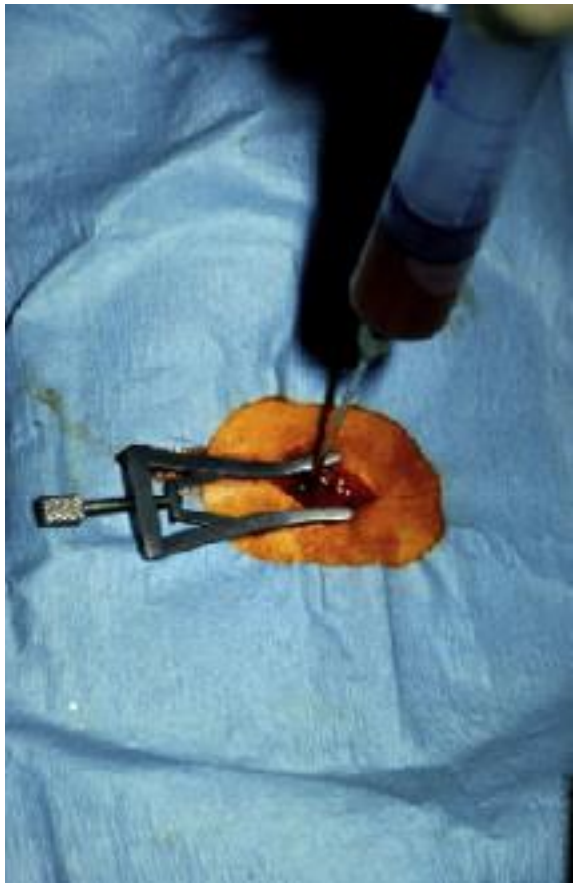
Akut/kronik ağrı

Öykü, FM

ESH, CRP, PCT

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

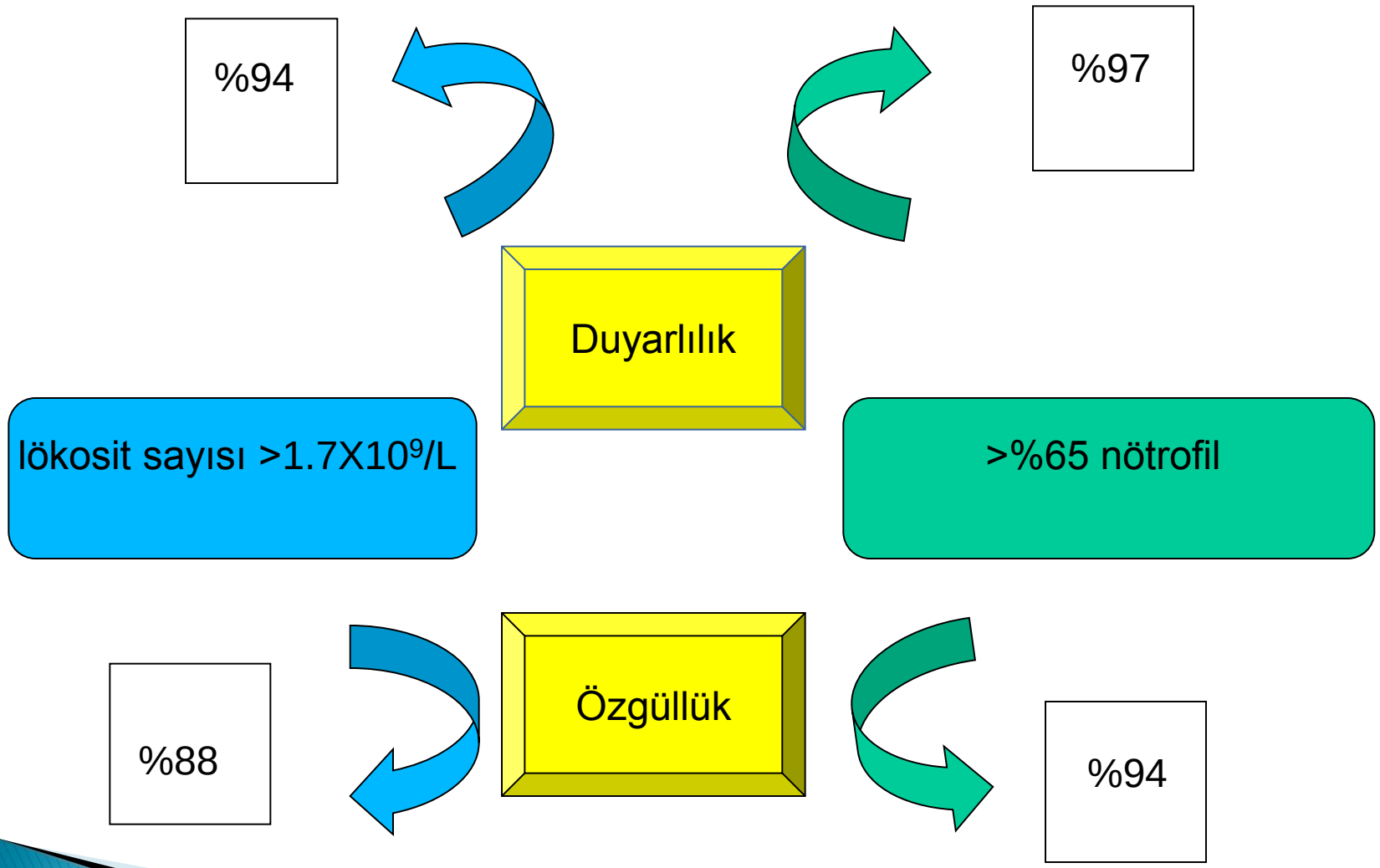
Artrosentez sonucu



Lökosit sayısı: 20X10^9/L

(%87 polimorfonükleer lökosit)

Sinovyal Sıvı



Trampuz A, et al. Am J Med 2004

Etiyoloji

Mikroorganizma	%
Gram-pozitif	76.5
S.aureus/MRSA	29.5/22.1
KNS/MR KNS	23.6/20.7
Streptokok	17.6
Enterokok	4.4
Corynebacterium spp.	1.5
Gram negatif	14.7
P.aeruginosa	5.9
E. coli	4.4
Enterobacter spp.	2.9
Salmonella spp	1.5
Diğer	8.8

	MSSA	MRSA	MS-ConNS	MR-CoNS	Other Gram-positive	Gram-negative	Total
Early, <3 months	5 (17%)	4 (13%)	4 (13%)	9 (30%)	3 (10%)	5 (17%)	30 (100%)
Delayed, 3-24 months	4 (9%)	10 (22%)	7 (16%)	11 (24%)	4 (9%)	9 (20%)	45 (100%)
Late, >24 months	24 (26%)	14 (15%)	14 (15%)	16 (17%)	12 (13%)	13 (14%)	93 (100%)
Total	33 (20%)	28 (17%)	25 (15%)	36 (21%)	19 (11%)	27 (16%)	168 (100%)

Carrega et a. Le Infezioni in Medicina, 2008
Lee et al. J Hosp Infect, 2010

Etken

- ß- laktamaz (+) oksasilin duyarlı *Staphylococcus lugdunensis*
- slayt koagülaz testi (+)
- tüp koagülaz testi (-)
- PYR testi (+)
- Ornitin dekarboksilaz testi (+)

International Journal of Infectious Diseases 14S4 (2010) S67–S77

Contents lists available at ScienceDirect

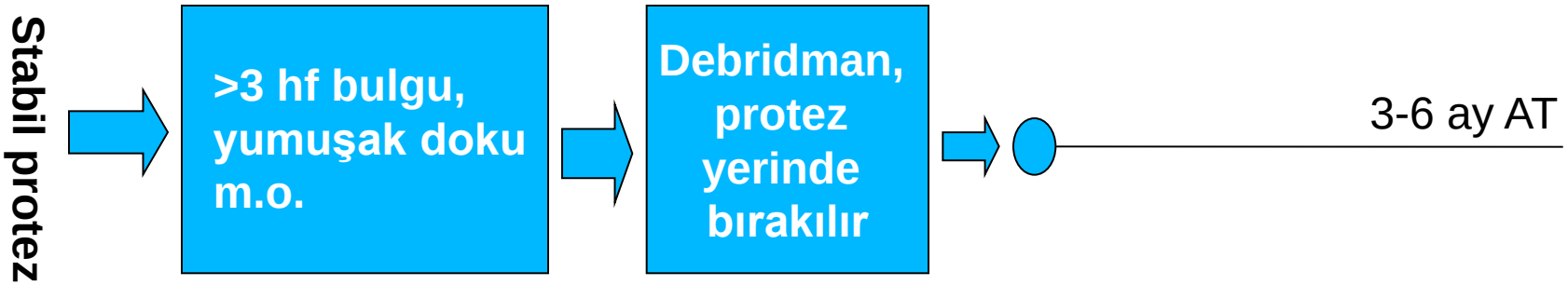
International Journal of Infectious Diseases

journal homepage: www.elsevier.com/locate/ijid

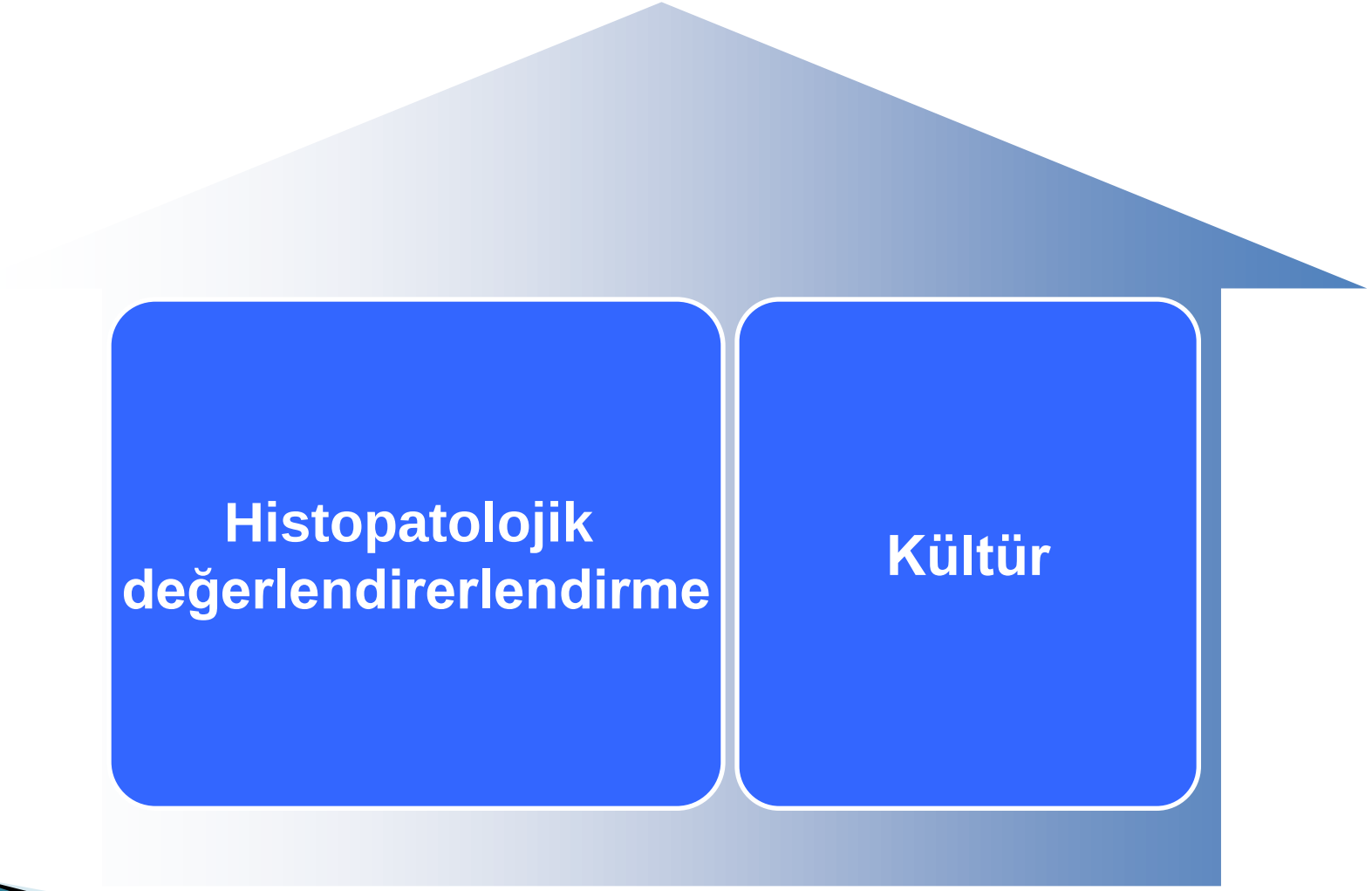
Consensus document on controversial issues in the diagnosis and treatment of prosthetic joint infections

Sebastiano Leone [a,*], Silvio Borrè [b], Antonella d'Arminio Monforte [c], Gennaro Mordente [d], Nicola Petrosillo [e], Alberto Signore [f], Mario Venditti [g], Pierluigi Viale [h], Emanuele Nicastri [e,k], Francesco N. Lauria [e,k], Giampiero Carosi [i,k], Mauro Moroni [j,k], Giuseppe Ippolito [e,k],

and the GISIG (Gruppo Italiano di Studio sulle Infezioni Gravi) Working Group on Prosthetic Joint Infections [1]



İntraoperatif değerlendirme

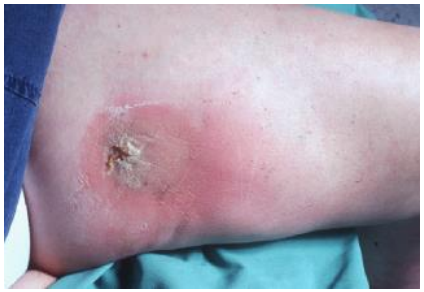


Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

2 intraoperatif örnekte

Staphylococcus lugdunensis (+)

Eklem Protezi İnfeksiyonu - Tanım

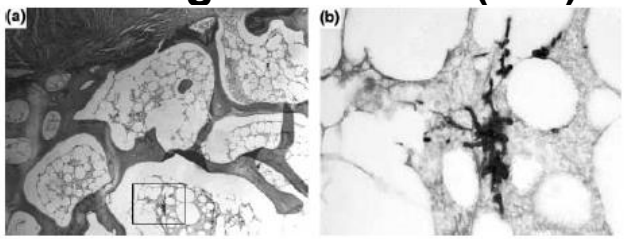


Klinisyenin Görüşü (BIII)

Sinüs traktüsü (BII)

Kültür (BIII)

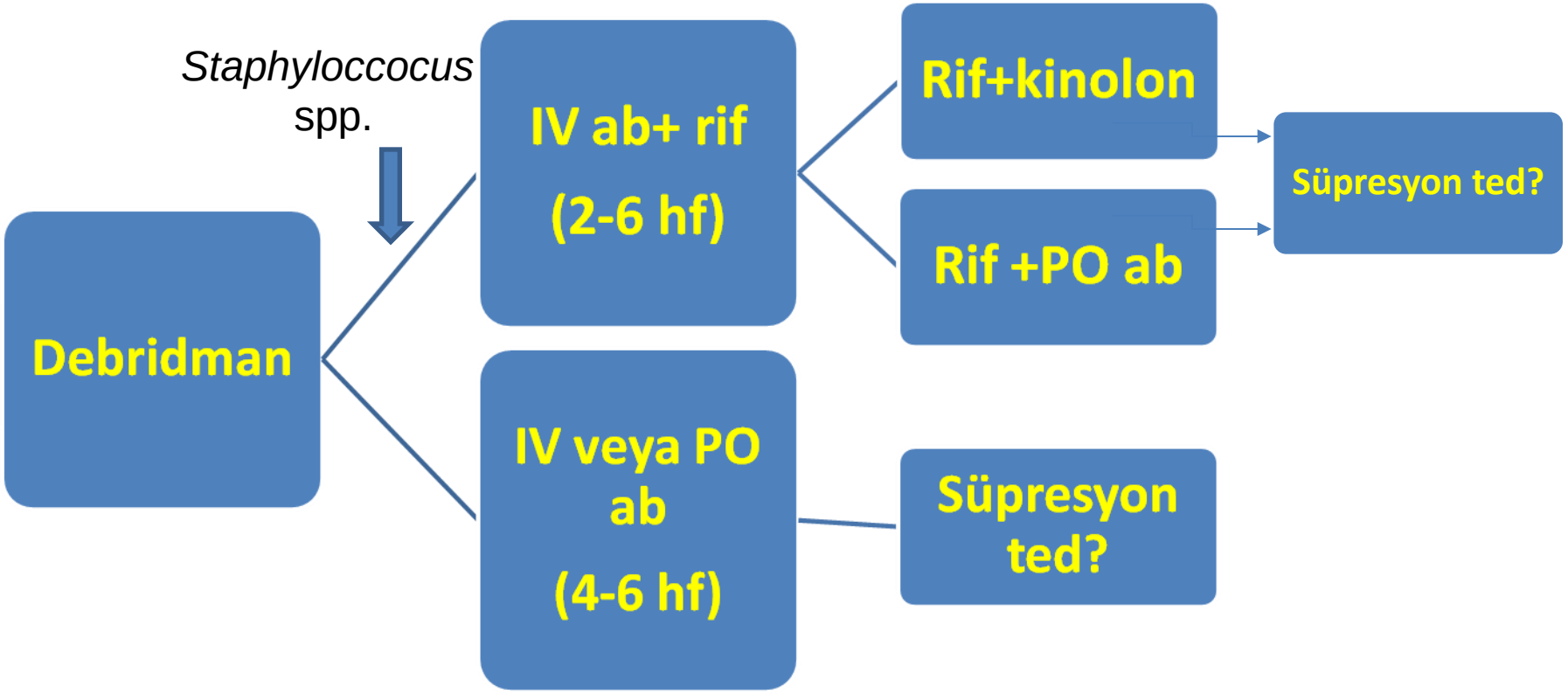
Histopatolojik Değerlendirme (BIII)



Pürülans (BIII)

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

Eklem Protezi İnfeksiyonu - Tedavi



Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

MS stafikokok; medikal tedavi

1. seçenek

Nafsilin 1.5-2 gr/4-6 sa IV
Sefazolin 1-2 gr/8 sa IV
Seftriakson 1-2 gr/24 sa IV

2. seçenek

Vankomisin 15 mg/kg/12 sa IV
Daptomisin 6 mg/kg/24 sa IV
Linezolid 600 mg/12 sa PO/IV

Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

International Journal of Infectious Diseases 14 (2010) e913–e918

Contents lists available at ScienceDirect

International Journal of Infectious Diseases

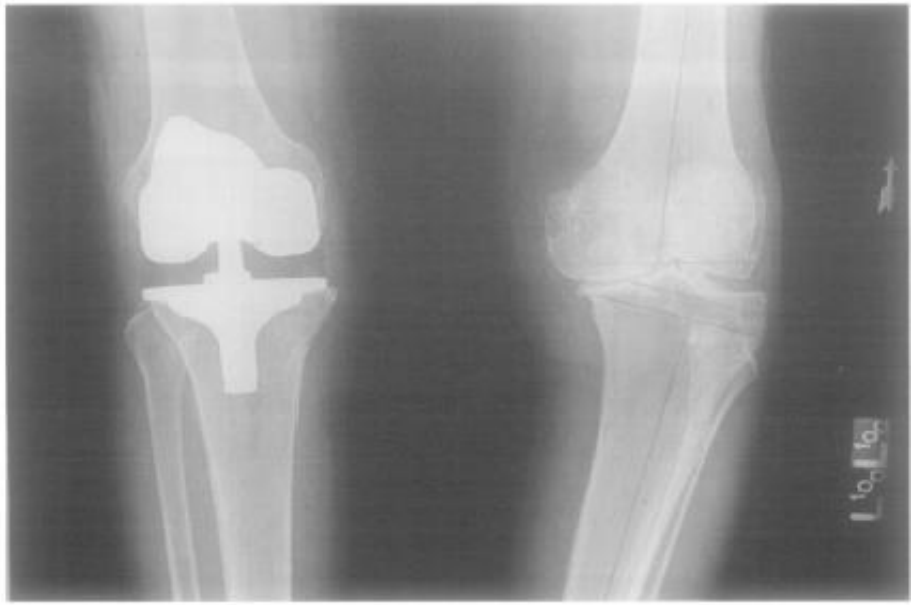
journal homepage: www.elsevier.com/locate/ijid

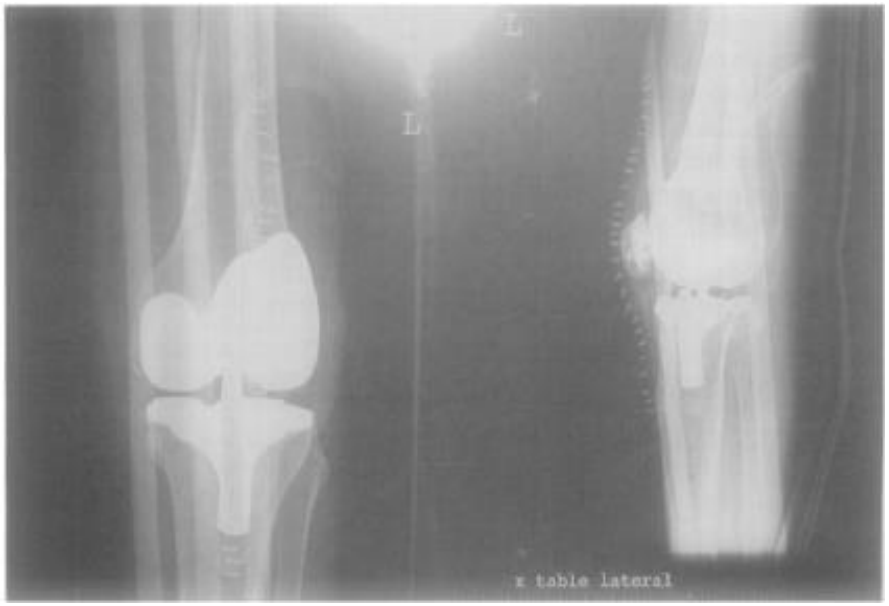
Outcome of orthopedic implant infections due to different staphylococci☆

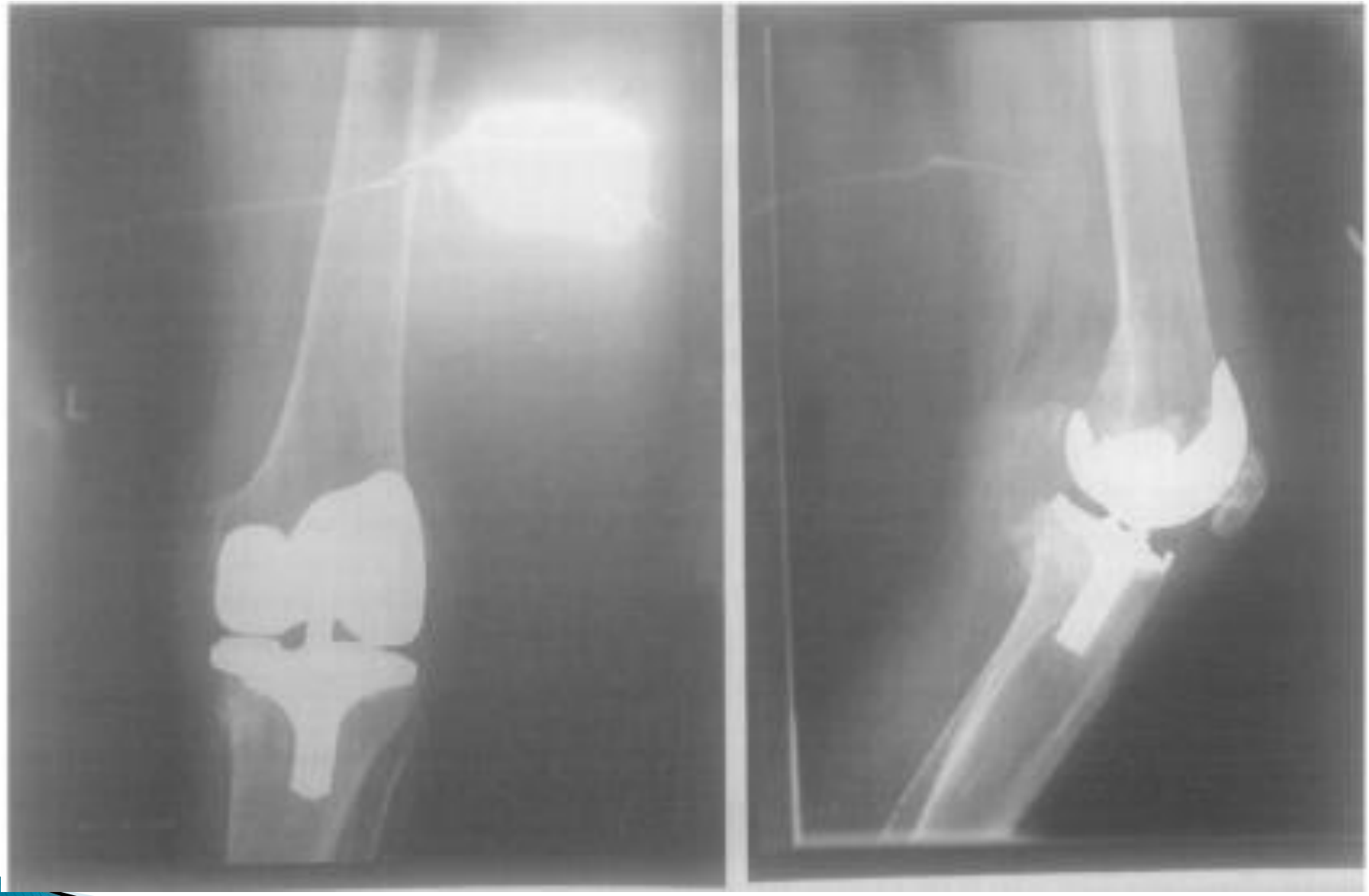
Dorota Teterycz[a], Tristan Ferry[b], Daniel Lew[b], Richard Stern[a], Mathieu Assal[a], Pierre Hoffmeyer[a], Louis Bernard[a,c,d], Ilker Uçkay[a,b,*]

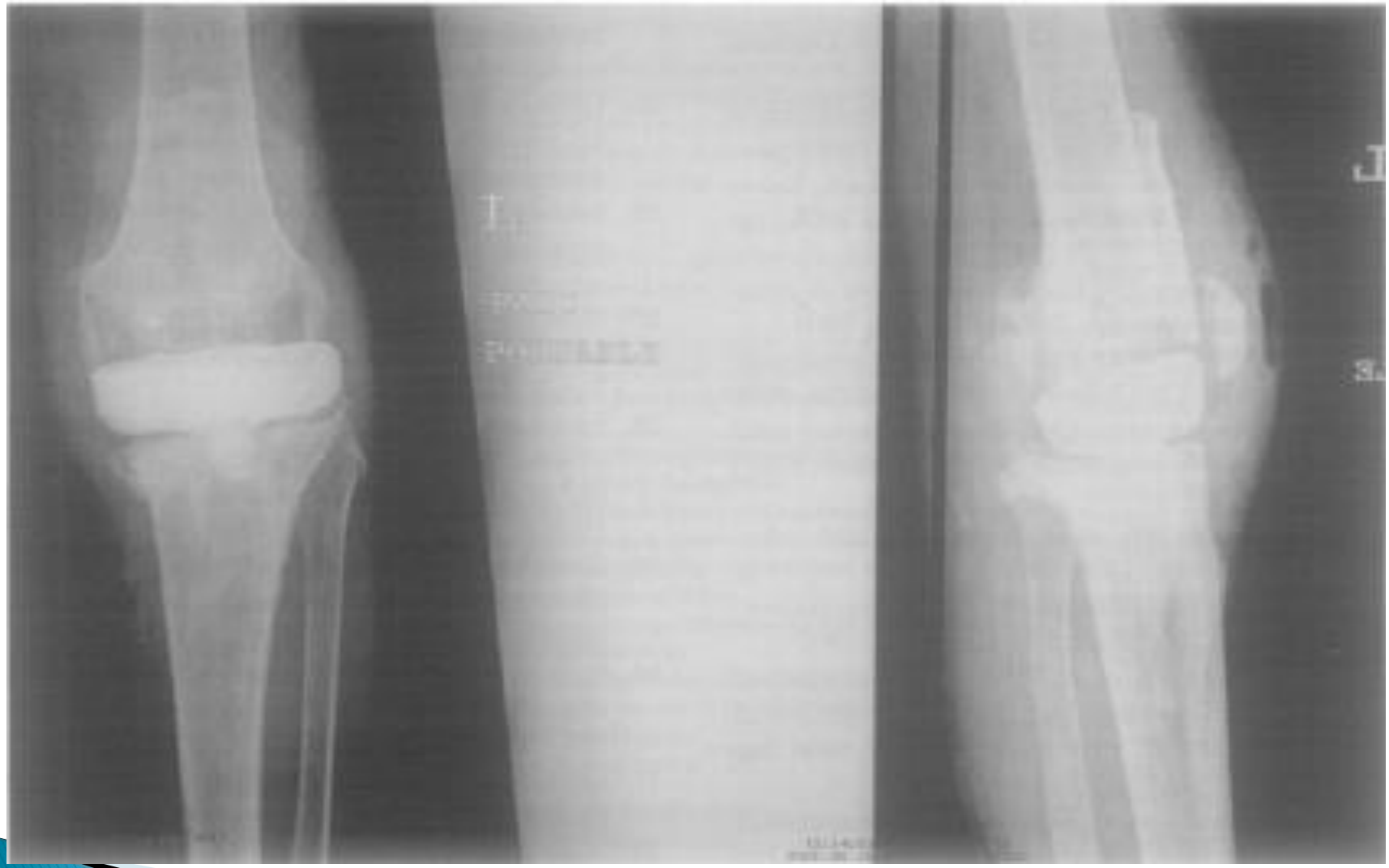
Eklem protezi enfeksiyonu	MRSA (n=18)	MRSA vs. MSSA	MSSA (n=25)	MSSA vs KNS	KNS (n=39)
Kadın cinsiyet	11(%61)		9(%36)		19(%49)
Yaş (ort.)	80	0.043	71		71
Kr. immünosüpresyon	7(%39)		8(%32)		13(%33)
İnfeksiyon					
Protez impl. ve infeksiyon arasındaki süre (ort.)	16 gün	0.001	361 gün		196 gün
Bakteremi	3(%17)	0.026	12(%48)		0(%0)
Tedavi					
Ab. ort. süresi	8 hf		7 hf		8 hf
Rifampisin kullanımı	8(%44)	0.033	17(%68)		24(%62)
Cerrahi uygulamalar (ort.)	2.5		2		2
İnfekte protezin çıkartılamsı	14(%78)		18(%72)		30(%77)
Yeni implant re-implantasyonu	2(%22)		10(%40)		22(%56)
2-aşamalı revizyon	4(%100)		9(%90)		19(%86)
Aşamalar arasındaki ort. süre	208 gün		69 gün		98 gün
Sonuç					
İnfeksiyon rekürensi	2(%11)		5(%20)		5(%13)
Tedavi	7(%39)		15(%60)		30(%77)
Hastanede ort. kalış süresi	66 gün		44 gün		51 gün

OLGU 2

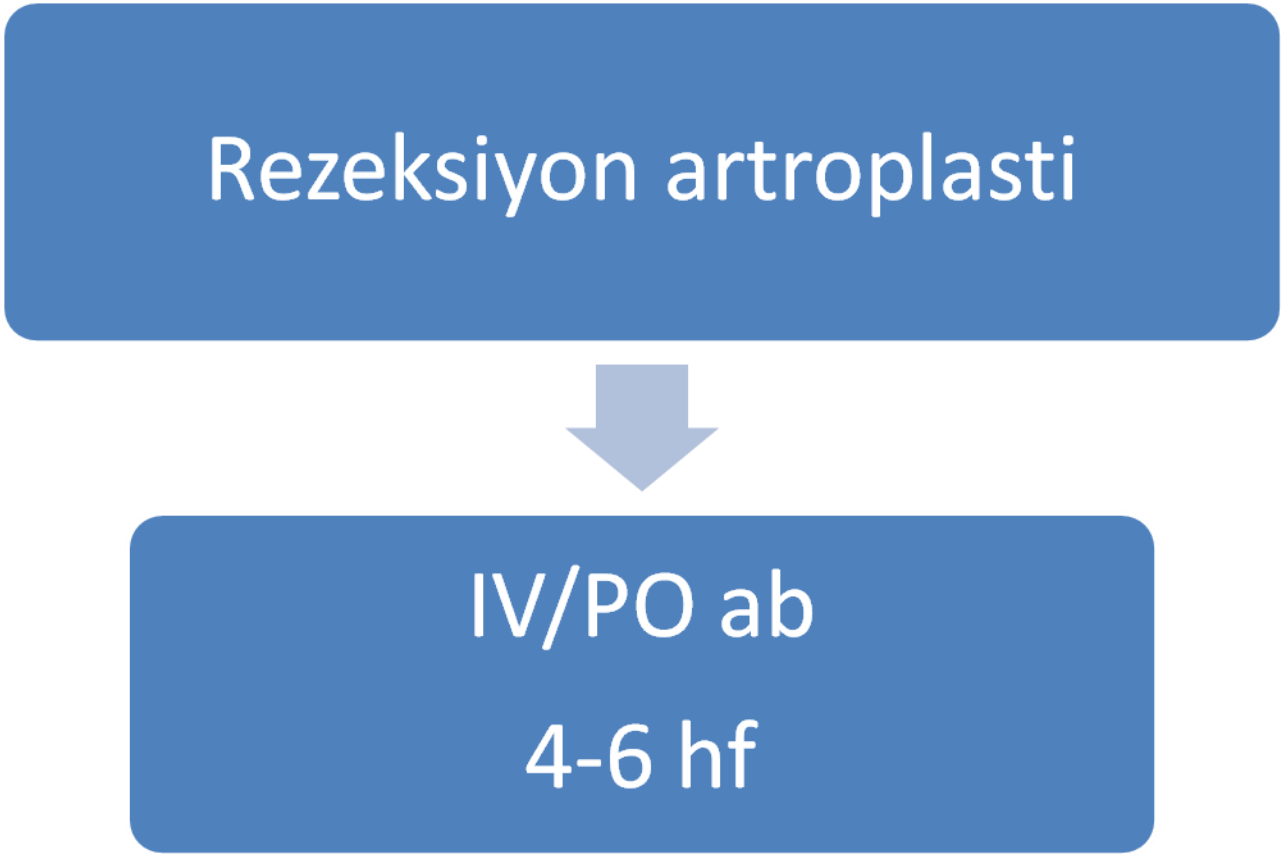








Eklem Protezi İnfeksiyonu Tedavisi



Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

Protez stabil değil

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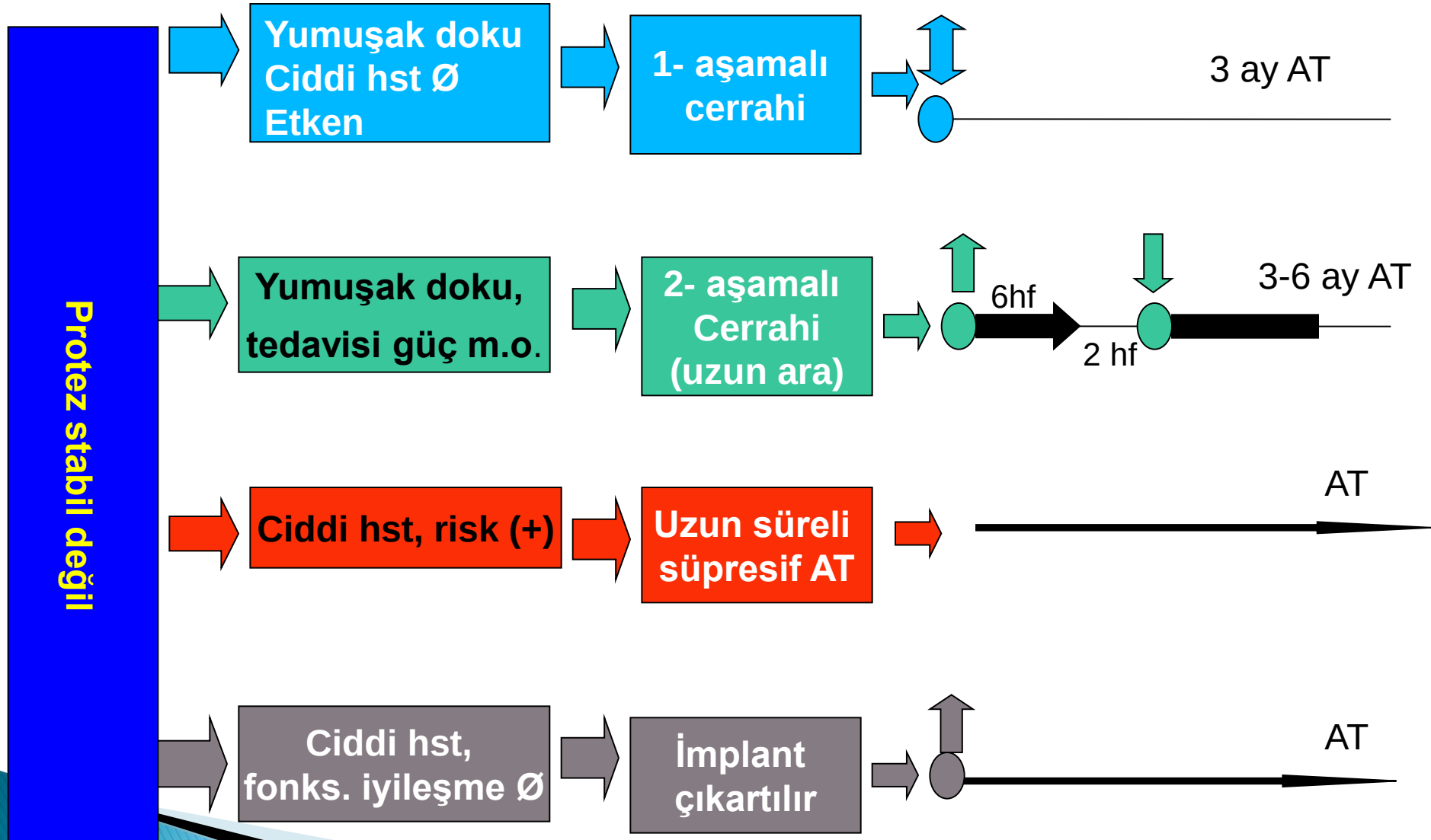
3 ay AT

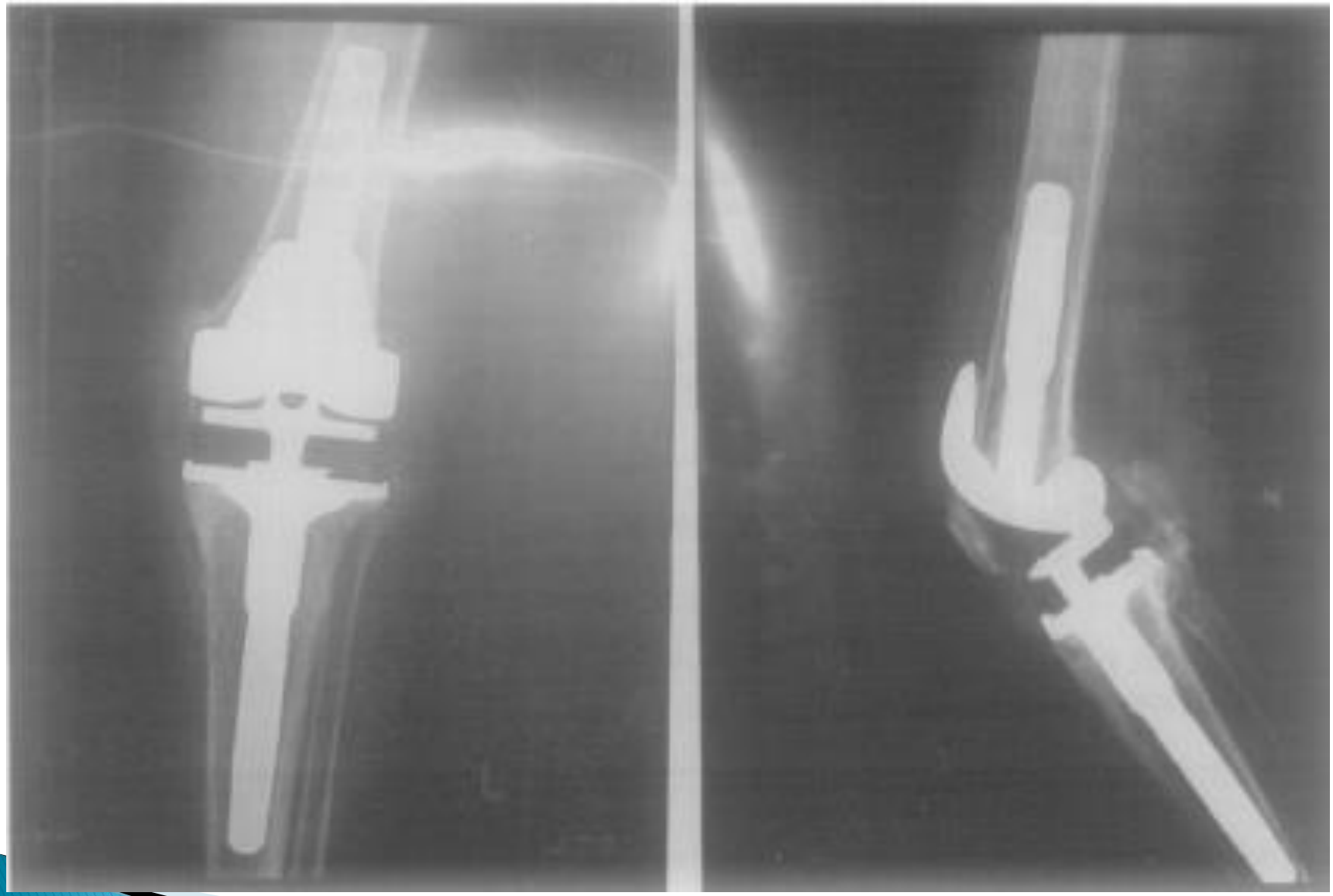
3-6 ay AT

hf

Ciddi hst, risk (+) → **Uzun süreli süpresif AT** → AT

Ciddi hst, fonks. iyileşme Ø → **İmplant çıkartılır** → AT


Protez stabil değil
Yumuşak doku Ciddi hst Ø Etken
1- aşamalı cerrahi
3 ay AT
Yumuşak doku, tedavisi güç m.o.
2- aşamalı Cerrahi (uzun ara)
6hf
2 hf
3-6 ay AT
Ciddi hst, risk (+)
Uzun süreli süpresif AT
AT
Ciddi hst, fonks. iyileşme Ø
İmplant çıkartılır
AT



OLGU 3

- 73 y. K; ateş, pansitopeni
- Özgeçmiş: APL, kolesistektomi, 7 yıl önce total sağ diz replasmanı
- FM: Genel durumu orta, soluk, tüm vücutta yaygın ekimoz
- Ateş: 38.6°C; KB 170/85 mmHg; nb: 110/dk; SS: 28/dk
- Diğer FM bulguları N
- Lab: Htc: %26, WBC: 370 nötrofil/mm^3

  Tromb: 34000X $10^3/\mu L$; INR: 1.20; PA AC gr: normal

- IV seftazidim (3X2gr/gün)
- *Pseudomonas stutzeri*
- 3. gününde hastanın ateşi N; nötropenik(400 nötrofil/mm^3)
- 2. ve 4. günündeki kan kültürlerinde Ø
- Oral siprofloksasin (2X500 mg/gün)

Artrosentez

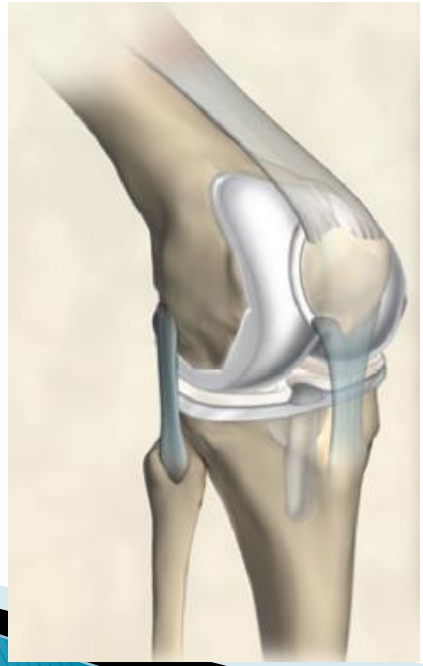
20 ml, bulanık
WBC: 48.900×10^9/L (%48 granülosit)

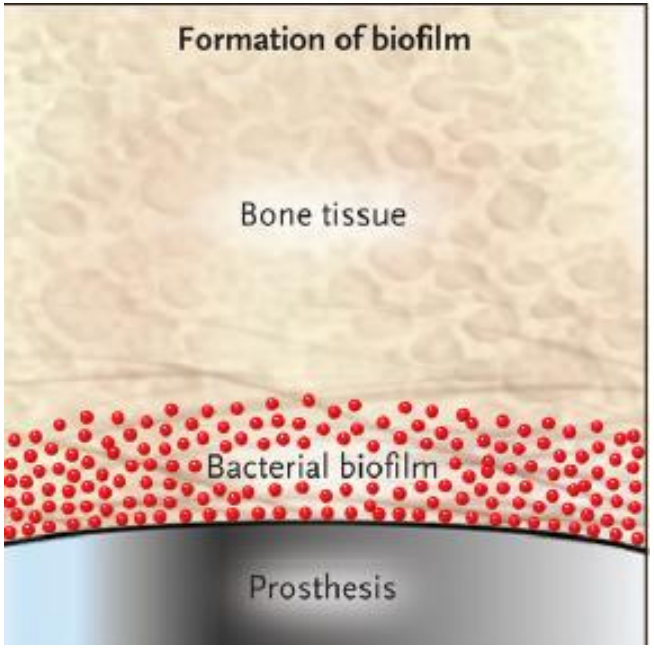
Etken?

Staphylococcus aureus
Koagülaz negatif stafilokok
Esherichia coli
Enterokok
Pseudomonas stutzeri

Bulaş yolu

Doğrudan
Komşuluk yoluyla
Kan yoluyla





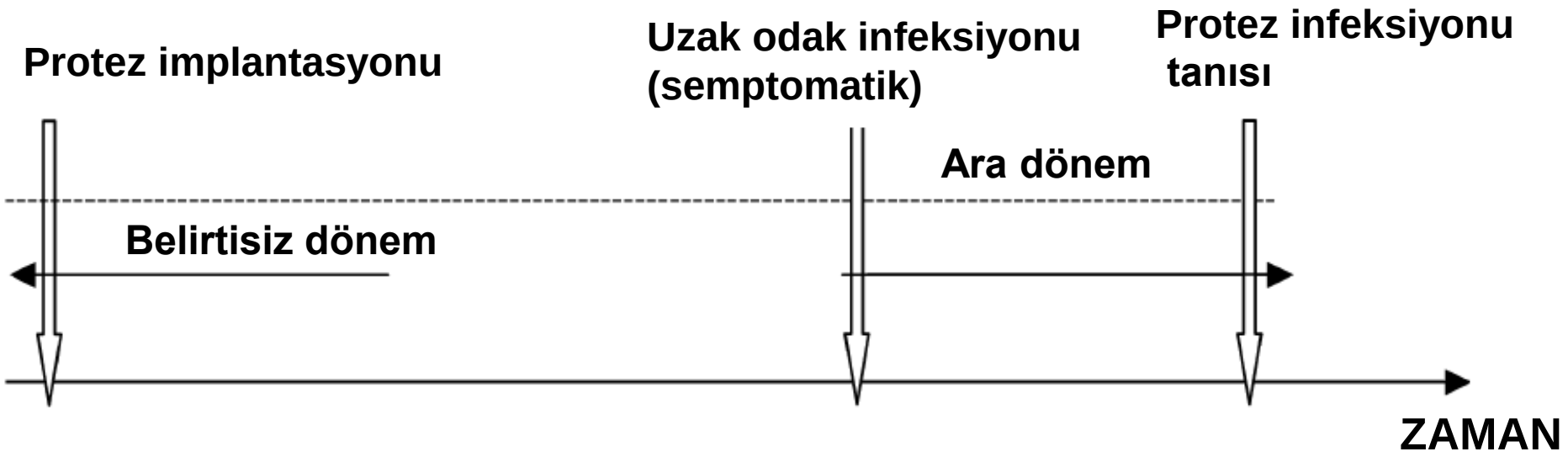
Méd Mal Infect 2001 ; 31 : 123-30

S0399-077X(01)00188-3/FLA

Original article

Secondary prosthetic joint infection: diagnostic criteria, treatment

M. Dupon [1], A. Lortat-Jacob [2], N. Desplaces [3], J. Gaudias [4], V. Dacquet [5], H. Carsenti [6], P. Dellamonica [6*], Group TIRESIAS



Gram-Negative Prosthetic Joint Infections: Risk Factors and Outcome of Treatment

Pang-Hsin Hsieh,[1,2] Mel S. Lee,[1,2] Kuo-Yao Hsu,[1,2] Yu-Han Chang,[1,2] Hsin-Nung Shih,[1,2] and Steve W. Ueng[1,2]

Clinical Infectious Diseases 2009; 49:1036–43

2 yıllık tedavi başarısı

GN EPİ %27

P=.002

GP EPİ %47

OLGU 4

82 y, E,

Şikayet: sağ kalça ağrısı

Özgeçmiş:

Total sağ kalça protezi

Mesane papiler karsinomu

Transüretral mesane rezeksiyonu

Mesaneye BCG uygulaması

50 mg/hf, 6 hafta BCG

Laboratuvar bulguları

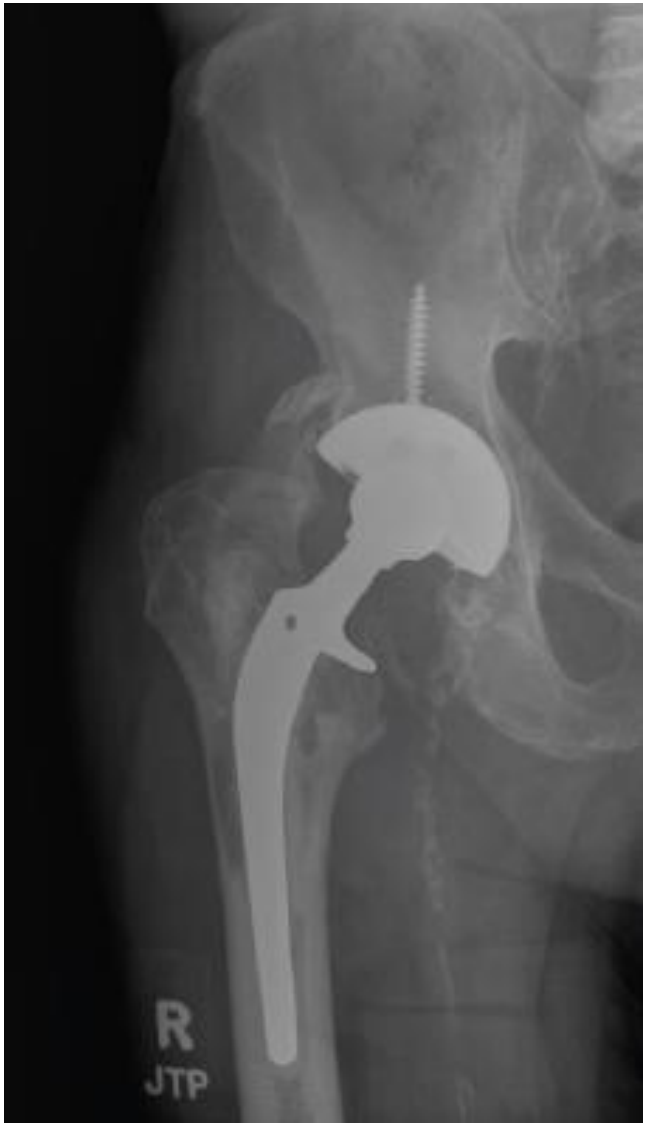
BK 8.8×10³/µL (4.5-11×10³/µL)

%75 nötrofil

hemoglobin 10.8g/dL

(13.8–18 g/dL)

MCV 92.2 fL (80–95 fL)



Pürülan akıntı; Gram (-)

Anaerob ve aerob bakteriyel kültürlerde üreme (-)

Postoperatif ESH: 51 mm/60 dakika

(8-15 mm/60 dk).

International Journal of Antimicrobial Agents 41 (2013) 272–277

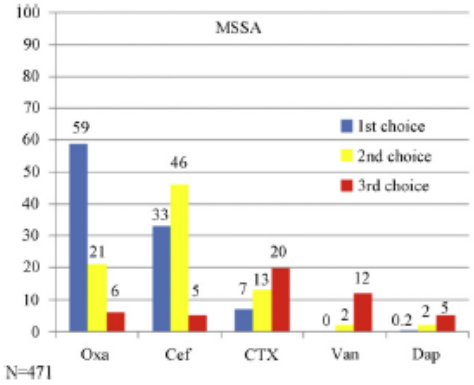
Contents lists available at SciVerse ScienceDirect

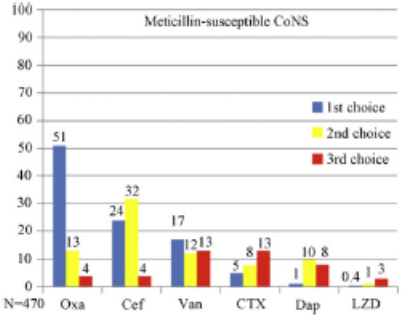
International Journal of Antimicrobial Agents

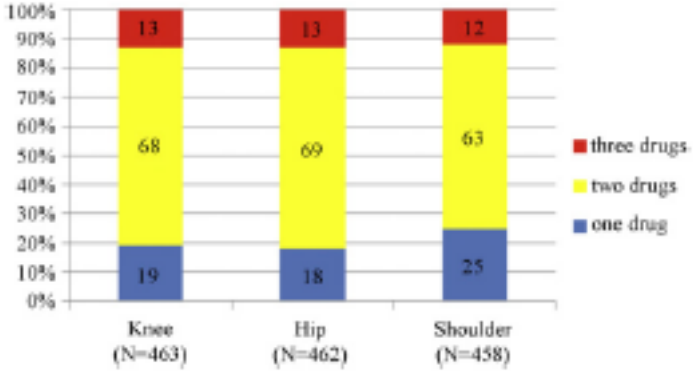
journal homepage: http://www.elsevier.com/locate/ijantimicag

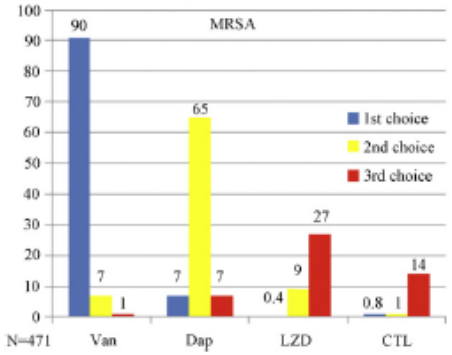
Current management of prosthetic joint infections in adults: results of an Emerging Infections Network survey

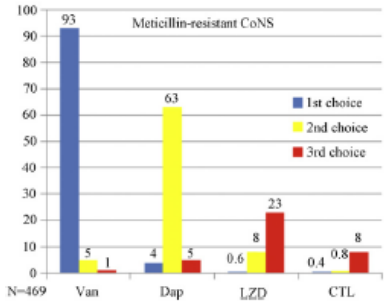
Jonas Marschall[a,*], Michael A. Lane[a], Susan E. Beekmann[b], Philip M. Polgreen[b], Hilary M. Babcock[a]





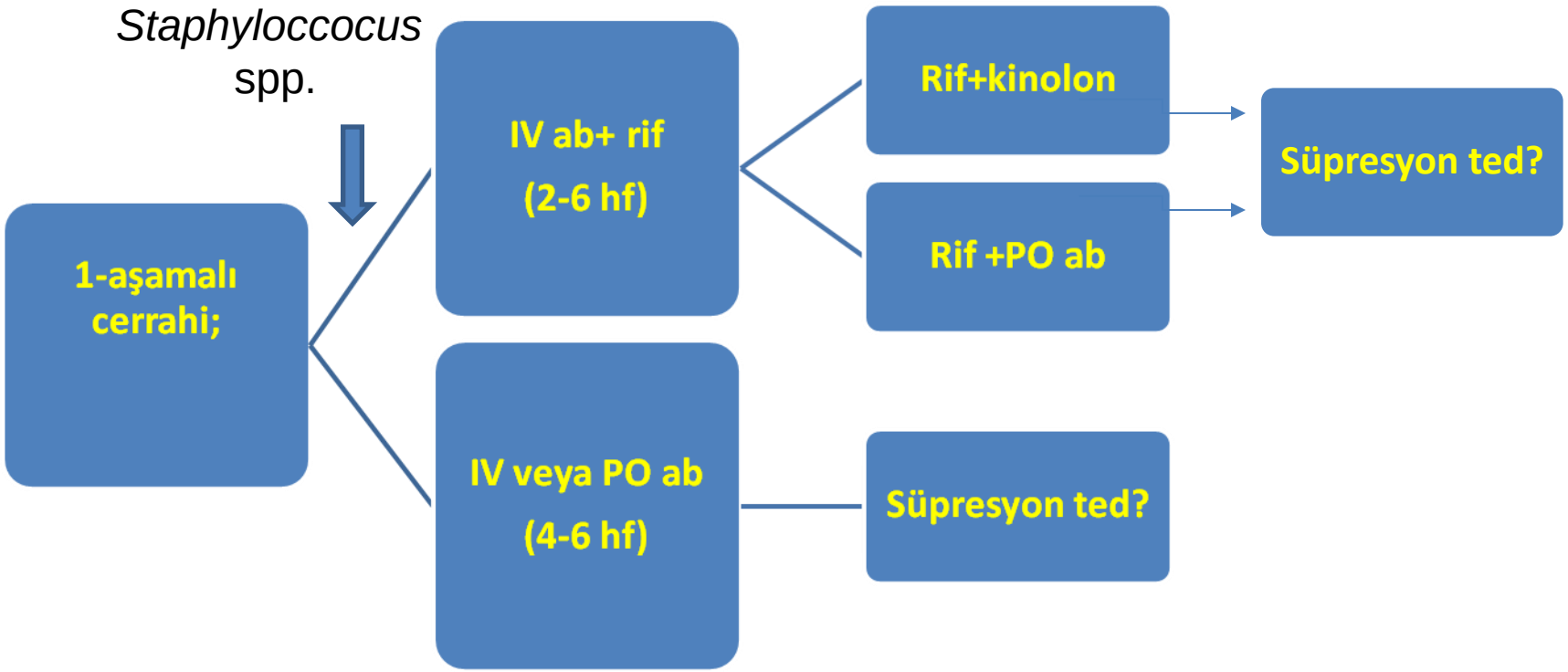






Kültür negatif EPİ
vankomisin/florokinolon
vankomisin/seftriakson vankomisin/sefepim

Eklem protezi infeksiyonu tedavisi



Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by IDSA, CID 2013

7 ay sonra- sağ kalçada endürasyon ve hassasiyet (+)

Bir ay sonra- cerrahi alan infeksiyonu yerinde yumuşak ve eritematöz kabarık lezyon

Amoksisilin-klavulanik asit 875/125 mg X2/gün PO,2 hf

3 ay sonra- yüzeyel cerrahi alan inf şüphesi ile sağ kalça artroplasti revizyonu

Ertapenem 1 gr/gün IV

İntraoperatif ARB (-)

3 ay sonra- yüzeyel cerrahi alan inf şüphesi ile sağ kalça artroplasti revizyonu

Ertapenem 1 gr/gün IV

İntraoperatif ARB (-)

inkübasyonun 39. gününde kültürde mikobakteri üremesi (+)

İzoniazid, rifampisin, etambutol ve pirazinamid

Mycobacterium bovis