İNTRAABDOMİNAL ENFEKSİYONLARA BAKIŞ

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Genel Cerrahi AD.

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İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji AD.

Dokuz Eylül Üniversitesi Tıp Fakültesi

EKMUD / 11 Mayıs 2018 / ANTALYA

Sunum Planı

- Olgu Teorik/Pratik tanı ve tedavi yaklaşımı
- İntraabdominal infeksiyon riski
  Lokalizasyon ? Reoperasyon ?
- Tedavi - Hangi antibiyotikler ?
  Ne zaman ve nasıl bir cerrahi girişim
- Ülkemizde İntra-abdominal infeksiyonlar

Cerrah ve İnfeksiyoncu gözüyle…

Olgu

Teorik/Pratik tanı ve tedavi yaklaşımı

İntraabdominal infeksiyon riski
Lokalizasyon ?
Reoperasyon ?

INTESTINAL MICROFLORA

10^{14} micro-organisms, >500 differentes species

Stomach 10^2 to 10^3

Lactobacilli

Duodenum

$<10^{4-5}$

Streptococci
Lactobacilli

Jejunum

Enterobacteria
Enterococcus
Faecalis
Bacteroides
Bifidobacteria
Peptococcus
Peptostreptococc
Ruminococcus
Clostridia
Lactobacilli

Ileum 10^3 to 10^7

Colon with appendix 10^9 to 10^{12}

and....

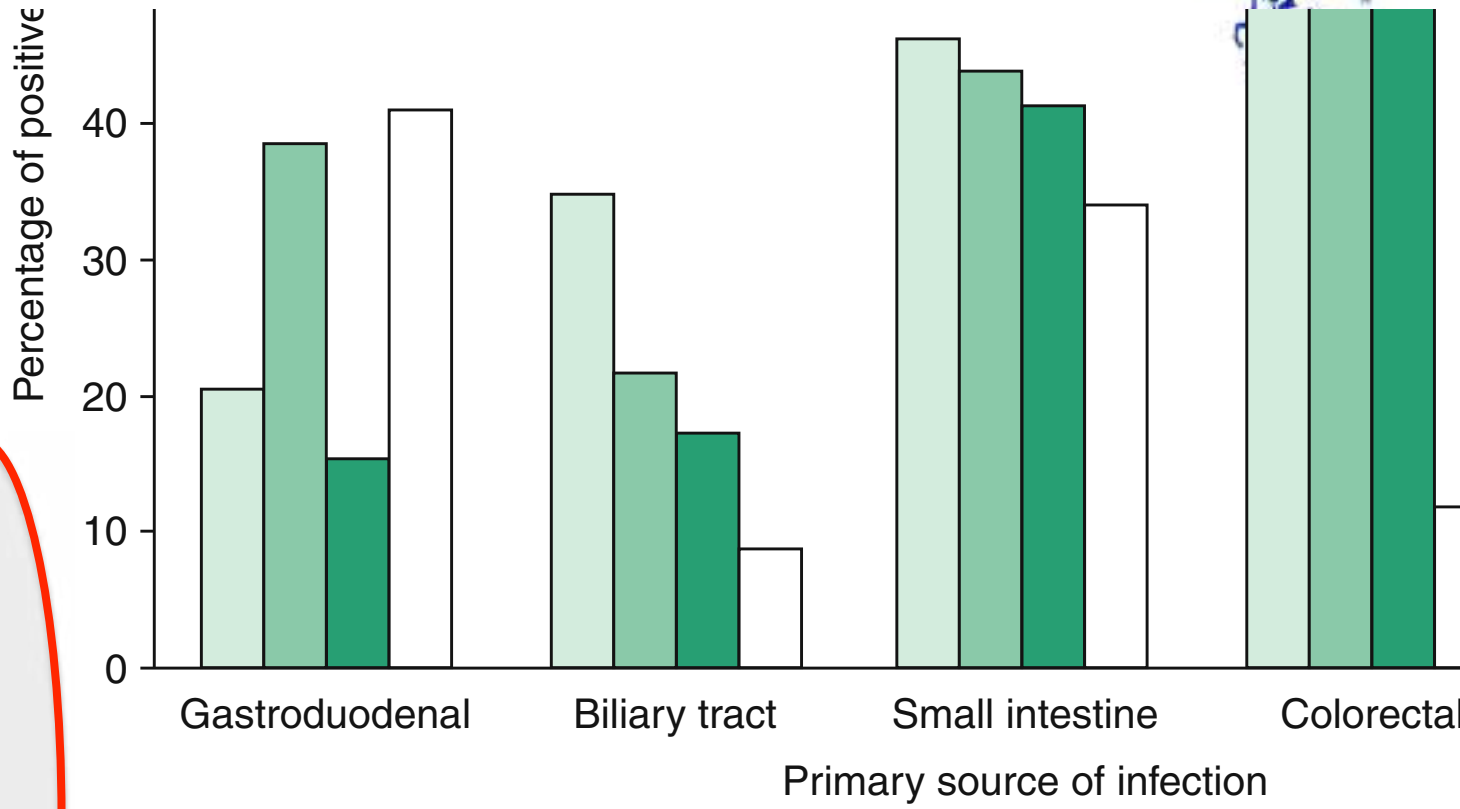

Fig. 1. Initial culture results in secondary and tertiary peritonitis: percentages of positive cultu
infection.[19]

Konak özellikleri ? Hastalığın ciddiyeti

- >24 saat ilk müdahalenin gecikmesi
- APACHE II skoru ≥ 15 olması
- İleri yaş
- Ek hastalık varlığı ve organ yetmezliği
- Düşük albümin seviyesi
- Kötü beslenme
- Diffüz peritonit
- Kaynak kontrolünün başarısı ?
- Malignite varlığı

Clin Infect Dis 2010;50:133-64

PUBMED ?

- Colorectal Cancer± Reoperation ± infection
- Surgical site infection ± Reoperation/relaparotomy
- Wound infection ± Reoperation ± colorectal cancer
- İntraabdominal infection/sepsis ± reoperation
- İntraabdominal abscess ± cancer ± reoperation

International Journal of Surgery

journal homepage: www.journal-surgery.net

Original research

Relaparotomy in colorectal cancer surgery — Do any factors influence the risk of mortality? A case controlled study☆

Micha
Adam
Departme

H I G

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- Reope
- Anast

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factors of high mortality.

İlk operasyon sonrası 60 gün içinde

'On demand' 'Planned'

Kanama, Evisserasyon, İleus, anastomoz kaçağı, intraabdominal abse...

Abdominal reoperasyon % 1.1-4.4

Mortalite yüksek

Risk ?

Yaş (> 65)
Erkek cinsiyet
Genel durum bozukluğu
Anastomoz komplikasyonu

1. Introduction

Some severe postoperative complications as consequ
even elective colorectal cancer surgery may require reo
Relaparotomy is defined as an abdominal operation perfo
ter an initial surgery within 60 days, and the decision is ma
criteria of general reaction to surgical stress. The inciden
gent relaparotomy-requiring complications has been rep
1.1%–4.4% [1,2]. When the first (index) operation was perfo

1674 hasta elektif operasyon

121 (% 7.2) reoperasyon gereksinimi

Anastomoz yapılmayan grupta abse daha fazla

Mortalite - abdominal sepsis/septik şok (%68.7)

ter reoperations was so high. In a study of Sørensen et al. the

cular disease in medical history, malignancy and A

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y. Acc
age, c

* The paper was accepted for poster presentation during: 8 International European Federation for Colorectal Cancer, Vienna, Austria, 4–6 April, 2013.
* Corresponding author. Department of General and Colorectal Surgery, Medical University of Lodz, Plac Hallera 1, 90-647 Lodz, Poland.
E-mail address: m.mik@wp.pl (M. Mik).

http://dx.doi.org/10.1016/j.ijsu.2014.09.001

been well explored.

Methods: Cohort analysis of 26,638 stage I to III colorectal cancer patients in the 1992 to 1996 SEER-Medicare database. *Independent variables*: sociodemographics, tumor characteristics, comorbidity, and acuity. *Primary outcome*: postoperative procedural intervention. *Analysis*: Logistic regression identified patient characteristics predicting postoperative procedures and the adjusted risk of 30-day mortality and prolonged hospitalization among patients with postoperative procedures.

Results: A total of 5.8% of patients required postoperative interven-

(*Ann Surg* 2007;245: 75–79)

Interest in measuring surgical quality is growing rapidly. V
increasing recognition that surgical outcomes vary wic
patients are seeking more detailed information about provid
performance prior to undergoing treatment. Providers are ir

26638 Hasta

Evre I-III kolorektal kanser

Cerrahi sonrası plansız müdahaleler ?

SEER-Medicare database

Methods: Cohort analysis of 26,638 stage I to III colorectal cancer patients in the 1992 to 1996 SEER-Medicare database. *Independent variables*: sociodemographics, tumor characteristics, comorbidity, and acuity. *Primary outcome*: postoperative procedural intervention. *Analysis*: Logistic regression identified patient characteristics predicting postoperative procedures and the adjusted risk of 30-day mortality and prolonged hospitalization among patients with postoperative procedures.

Results: A total of 5.8% of patients required postoperative intervention. Patient characteristics had little impact on the frequency of postoperative procedures, except for acute medical conditions, including bowel perforation (relative risk [RR] = 3.0, 95% confidence interval [CI] = 2.5–3.6), obstruction (RR = 1.6; 95% CI = 1.4–1.8), and emergent admission (RR = 1.3; 95% CI = 1.1–1.4). After a postoperative procedure, patients were more likely to experience early mortality (RR = 2.4; 95% CI = 2.1–2.9) and prolonged hospitalization (RR = 2.2; 95% CI = 2.1–2.4). The most common interventions were performed for abdominal infection (31.7%; RR mortality = 2.9; 95%

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ment purposes. Payers are looking for better data by whic
steer selected populations of surgical patients to high-qu
providers. To meet these various interests, policy makers
health services researchers have redoubled their efforts to
velop and implement quality indicators germane to surgery

Unfortunately, however, current measure surg
quality have major flaws which limit their useful ho
simple and direct, operative mortality is too u

sensitivity of claims was only 35%, although sensitivity of claims for reoperation was greater than 60%. We have minimized this limitation by using both ICD-9-CM and CPT codes to focus only on the subset of major surgical complications that require reoperation or other procedural intervention and are

that major complication rates after
were similar to the current popula
like our study, these investigators
complications occur in a small su
cally significant events that often

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Mortalite riski 3 kat

Postop hastanede yatış süresi 2.7 kat

Department of Veterans Affairs.
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most procedures to allow consistent and reliable measureme
surgical quality and too blunt to direct quality improven
efforts. Volume of care has been correlated with rea
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We investigated complications of surgery in the conte
colorectal cancer, a common and potentially fatal disease[6] th
primarily treated with well-established surgical techniques.[7]
aim was to identify unplanned procedural interventions foll
ing colorectal cancer surgery that might be used as intermed

Tedavi –

Hangi antibiyotikler ?

Ne zaman ve nasıl bir Cerrahi girişim

Hangi antibiyotik ?

- Seftazidim / Sefepim
- Sefaperazon sulbaktam
- Seftriakson + Metronidazol
- Siprofloksasin/Levofloksasin + Metronidazol
- Moksifloksasin
- Piperasilin-tazobaktam
- Tigesiklin
- Karbapenemler

SIS-IDSA Rehberi-2010
WSES Rehberi-2012
SIS - 2017 revizyon

Konak özellikleri ?

Hastalığın ciddiyeti ?

Toplum / Hastane kökenli ?

Toplum / Hastane etken direnç özellikleri ?

Diagnosis and Management of Complicated Intra-abdominal Infection in Adults and Children: Guidelines by the Surgical Infection Society and the Infectious Diseases Society of America

Joseph S. Solomkin,[1] John E. Mazuski,[2] John S. Bradley,[3] Keith A. Rodvold,[7,8] Ellie J. C. Goldstein,[5] Ellen J. Baron,[6] Patrick J. O'Neill,[9] Anthony W. Chow,[16] E. Patchen Dellinger,[10] Soumitra R. Eachempati,[11] Sherwood Gorbach,[12] Mary Hilfiker,[4] Addison K. May,[13] Avery B. Nathens,[17] Robert G. Sawyer,[14] and John G. Bartlett[15]

Regimen	Community-acquired infection in pediatric patients	Community-acquired infection in adults: Mild-to-moderate severity: perforated or abscessed appendicitis and other infections of mild-to-moderate severity	Community-acquired infection in adults: High risk or severity: severe physiologic disturbance, advanced age, or immunocompromised state
Single agent	Ertapenem, meropenem, imipenem-cilastatin, ticarcillin-clavulanate, and piperacillin-tazobactam	Cefoxitin, ertapenem, moxifloxacin, tigecycline, and ticarcillin-clavulanic acid	Imipenem-cilastatin, meropenem, doripenem, and piperacillin-tazobactam
Combination	Ceftriaxone, cefotaxime, cefepime, or ceftazidime, each in combination with metronidazole; gentamicin or tobramycin, each in combination with metronidazole or clindamycin, and with or without ampicillin	Cefazolin, cefuroxime, ceftriaxone, cefotaxime, ciprofloxacin, or levofloxacin, each in combination with metronidazole[a]	Cefepime, ceftazidime, ciprofloxacin, or levofloxacin, each in combination with metronidazole[a]

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Diagnosis and Management of Complicated Intra-abdominal Infection in Adults and Children: Guidelines by the Surgical Infection Society and the Infectious Diseases Society of America

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Recommendations for Empiric Antimicrobial Therapy for Health Care–Associated Complicated Intra-abdominal Infection

	Regimen				
Organisms seen in health care–associated infection at the local institution	Carbapenem[a]	Piperacillin-tazobactam	Ceftazidime or cefepime, each with metronidazole	Aminoglycoside	Vancomycin
<20% Resistant *Pseudomonas aeruginosa*, ESBL-producing Enterobacteriaceae, *Acinetobacter*, or other MDR GNB	Recommended	Recommended	Recommended	Not recommended	Not recommended
ESBL-producing Enterobacteriaceae	Recommended	Recommended	Not recommended	Recommended	Not recommended
P. aeruginosa >20% resistant to ceftazidime	Recommended	Recommended	Not recommended	Recommended	Not recommended
MRSA	Not recommended	Not recommended	Not recommended	Not recommended	Recommended

Ulus Cerrahi Derg 2016; 32: 306-321
DOI: 10.5152/UCD.2016.3688

Consensus Report

Recommendations for intra-abdominal infections consensus report

Vildan Avkan-Oğuz[1], Nurcan Baykam[2], Selman Sökmen[3], Rahmet Güner[4], Fatih Agalar[5], Emine Alp[6], Ahmet Doğrul[7], Özge Turhan[8], Canan Ağalar[9], Behice Kurtaran[10], İbrahim Ethem Geçim[11], Reşat Özaras[12], Gürdal Yılmaz[13], Ayhan Akbulut[14], İftihar Koksal[13,15]

DERLEME / REVIEW

DOI: 10.4274/mjima.2016.7
Mediterr J Infect Microb Antimicrob 2016;5:7
Erişim: http://dx.doi.org/10.4274/mjima.2016.7

İntra-abdominal Enfeksiyonlar İçin Öneriler "Uzlaşı Raporu"

Recommendations for Intra-abdominal Infections "Consensus Report"

Vildan AVKAN OĞUZ[1], Nurcan BAYKAM[2], Selman SÖKMEN[3], Rahmet GÜNER[4], Fatih AĞALAR[5], Emine ALP MEŞE[6], Ahmet DOĞRUL[7], Özge TURHAN[8], Canan AĞALAR[9], Behice KURTARAN[10], İbrahim Ethem GEÇİM[11], Reşat ÖZARAS[12], Gürdal YILMAZ[13], Ayhan AKBULUT[14], İftihar KÖKSAL[13,*]

Öz

Rehberler, konu ile ilgili farklı uzmanlık alanlarından uzmanların her ülkenin kendi verilerini dikkate alarak hazırladıkları önerileri içerir. Ancak ülkemizde bugüne kadar intra-abdominal enfeksiyonlar (İAE) için ortak dil oluşturmak adına, önerileri kapsayan bir rehber kullanıma sunulmamıştır. Bunun en önemli nedeni klinikte İAE'lerin tanı ve tedavisi ile ilgili veya İAE tanılı hastalardan elde edilen mikroorganizma duyarlılıklarını değerlendiren laboratuvar çalışmalarının oldukça az sayıda olmasıdır. Oysa günümüzde farklılaşan konak özellikleri ve gelişen teknolojik tedavi yöntemleri nedeniyle "ortak dil kullanmak" zorunluluk haline gelmiştir. Bu amaçla Mayıs 2015'te; Türkiye Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Uzmanlık Derneği'nin (Türkiye EKMUD) önderliğinde Türk Cerrahi Derneği, Türk Kolon ve Rektum Cerrahisi Derneği, Fıtık Derneği, Türk Hepato Pankreato Bilier Cerrahi Derneği

- ✓ EKMUD
- ✓ Türk Cerrahi Derneği
- ✓ Türk Kolon ve Rektum Cerrahisi Derneği
- ✓ Fıtık Derneği
- ✓ Türk Hepato Pankreato Bilier Cerrahi Derneği
- ✓ Türk Hastane Enfeksiyonları ve Kontrolü Derneği

da çalışmalar değ ve Cerrahi Enfeksi şılabilen rehberlerden ya aklaşımı olmak üzere iki süre ile derneklerin site

Anahtar Kelim

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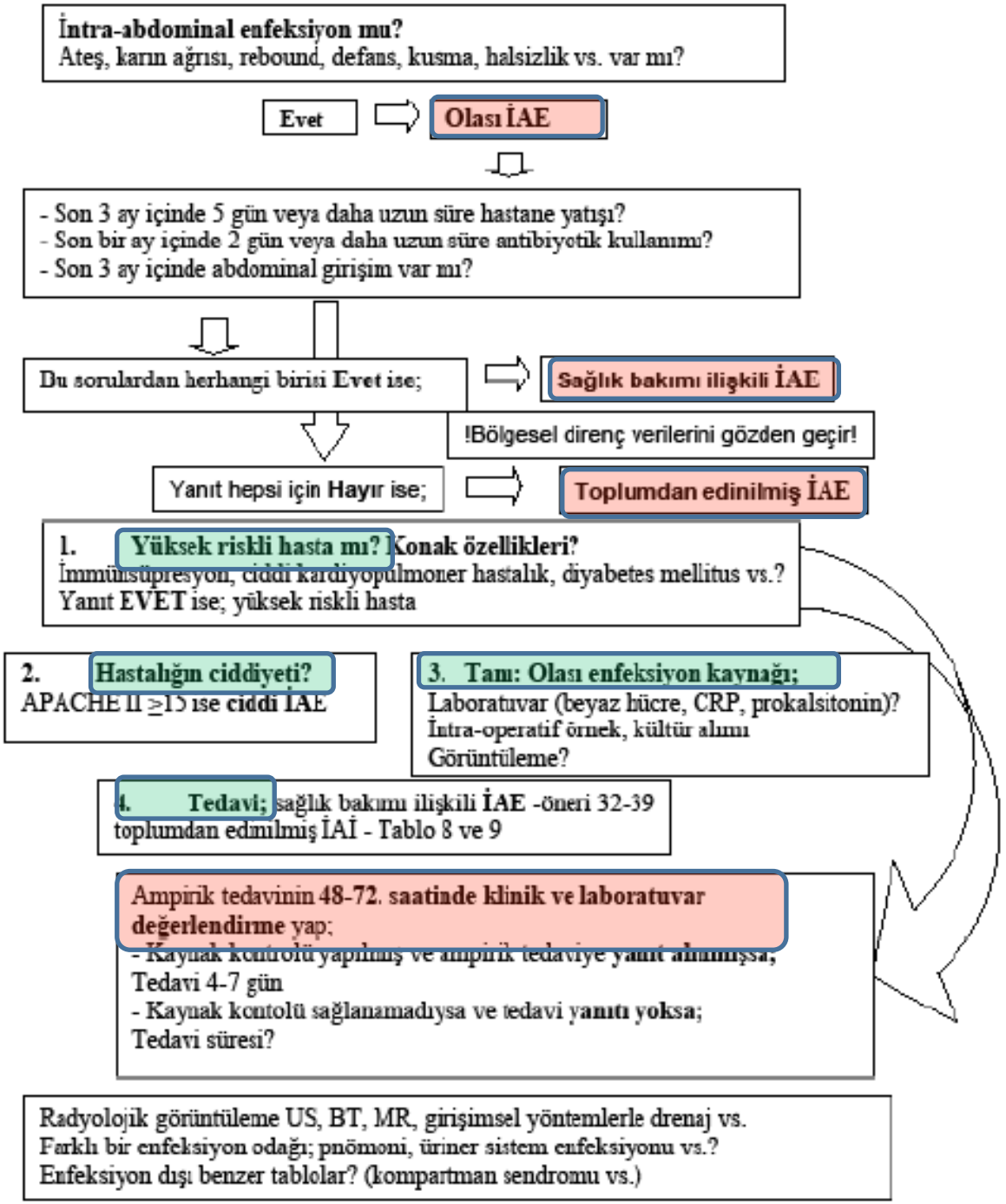
**EKMUD Başkanı*


İntra-abdominal enfeksiyon mu?
Ateş, karın ağrısı, rebound, defans, kusma, halsizlik vs. var mı?
Evet
Olası İAE
- Son 3 ay içinde 5 gün veya daha uzun süre hastane yatışı?
- Son bir ay içinde 2 gün veya daha uzun süre antibiyotik kullanımı?
- Son 3 ay içinde abdominal girişim var mı?
Bu sorulardan herhangi birisi Evet ise;
Sağlık bakımı ilişkili İAE
!Bölgesel direnç verilerini gözden geçir!
Yanıt hepsi için Hayır ise;
Toplumdan edinilmiş İAE
1. Yüksek riskli hasta mı? Konak özellikleri?
İmmünsüpresyon, ciddi kardiyopulmoner hastalık, diyabetes mellitus vs.?
Yanıt EVET ise; yüksek riskli hasta
2. Hastalığın ciddiyeti?
APACHE II ≥15 ise ciddi İAE
3. Tanı: Olası enfeksiyon kaynağı;
Laboratuvar (beyaz hücre, CRP, prokalsitonin)?
İntra-operatif örnek, kültür alımı
Görüntüleme?
4. Tedavi; sağlık bakımı ilişkili İAE -öneri 32-39
toplumdan edinilmiş İAİ - Tablo 8 ve 9
Ampirik tedavinin 48-72. saatinde klinik ve laboratuvar değerlendirme yap;
- Kaynak kontrolü yapılmış ve ampirik tedaviye yanıt alınmışsa;
Tedavi 4-7 gün
- Kaynak kontrolü sağlanamadıysa ve tedavi yanıtı yoksa;
Tedavi süresi?
Radyolojik görüntüleme US, BT, MR, girişimsel yöntemlerle drenaj vs.
Farklı bir enfeksiyon odağı; pnömoni, üriner sistem enfeksiyonu vs.?
Enfeksiyon dışı benzer tablolar? (kompartman sendromu vs.)

Tablo 8. Ekstra-biliyer komplike intra-abdominal enfeksiyonun başlangıçtaki ampirik tedavisinde kullanılabilecek ajanlar ve rejimler[5]

	Yetişkinlerde toplumdan edinilmiş enfeksiyon	
Rejim	**Hafif-orta enfeksiyon** Perfore veya apseli apandisit ve diğer enfeksiyonlar	**Ciddi enfeksiyon** Yüksek risk veya ciddi fizyolojik bozukluk, ileri yaş veya bağışıklığın bozulması durumu
Tek ajan	Ertapenem Moksifloksasin Tigesiklin	Piperasilin-tazobaktam İmipenem-silastatin Meropenem
Kombinasyon	Sefazolin, Sefuroksim, Seftriakson, Sefotaksim, Siprofloksasin veya Levofloksasin[a] + Metronidazol	Sefepim, Seftazidim, Siprofloksasin veya Levofloksasin[a] + Metronidazol

Tablo 9. Yetişkinlerdeki biliyer enfeksiyonların başlangıçtaki ampirik tedavisinde kullanılabilecek ajanlar ve rejimler[5]

Enfeksiyon	Rejim
Toplumdan edinilen hafif ile orta şiddette akut kolesistit	Sefazolin, Sefuroksim veya Seftriakson
Ciddi fizyolojik bozukluğa neden olan toplumdan edinilmiş akut kolesistit, ileri yaş veya bağışıklığın bozulması durumu	İmipenem-silastatin, Meropenem, Piperasilin-tazobaktam, Siprofloksasin, Levofloksasin[a] veya Sefepim + Metronidazol

Kandida riski ???

Tablo 11. İntra-abdominal kandida enfeksiyonları için spesifik ve spesifik olmayan risk faktörleri sıralanmıştır[10]

Spesifik risk faktörleri	Spesifik olmayan risk faktörleri
- Laparoskopi dahil tekrarlayan cerrahi girişimler - 24 saat içinde üst gastrointestinal sistem, perforasyonları dahil tedavi edilemeyen ve/veya tekrarlayan perforasyonlar, - Özofagus dahil gastroduodenal cerrahi anastomoz kaçakları başta olmak üzere gastrointestinal anastomoz kaçakları	- Akut renal yetmezlik, - Santral venöz kateter varlığı, - Parenteral nütrisyon ile beslenme, - Ciddi sepsis, - Diyabetes mellitus, - İmmünsüpresyon, - Uzun süre geniş spektrumlu antibiyotik kullanımın - Yoğun bakım yatışı

IAI - Antibiyotik tedavi süresi ???

Pharmacotherapy. 2018 Apr 20. doi: 10.1002/phar.2118. [Epub ahead of print]

Shortened courses of antibiotics for bacterial infections: A systematic review of randomized controlled trials.

Hanretty AM[1], Gallagher JC[2].

Author information

Abstract

BACKGROUND: Commonly prescribed durations of therapy for many, if not most, bacterial infections are not evidence-based. Misunderstandings by clinicians and patients alike influence perspectives on antibiotic use, including duration of therapy and its role in antibiotic resistance.

OBJECTIVE: To demonstrate that shorter durations of antibiotic therapy are as efficacious as longer durations for many infections.

DATA SOURCES: A systematic review of English language articles using PubMed were identified for inclusion. Additionally, infection-specific guidelines were identified for review of recommendations. Search terms included specific infection types, randomized controlled trial (RCT), duration of therapy, treatment duration, short course, and long course.

STUDY SELECTION: Only RCTs of single-agent antibiotic therapy for the treatment of bacterial infections in adults were included.

DATA EXTRACTION: Independent data extraction of articles was conducted by two authors using predefined guidance for article inclusion.

DATA SYNTHESIS: In total, 23 RCTs met our criteria for inclusion. All trials compared single-agent antibiotics for a short and long antibiotic course in six common infections: community-acquired pneumonia, ventilator-associated pneumonia, intra-abdominal infections, skin and soft tissue infections, uncomplicated cystitis, and complicated cystitis or pyelonephritis.

CONCLUSIONS: Clinicians can decrease net antibiotic use by recommending shorter courses where evidence supports them. Antimicrobial stewardship programs that systematically address treatment duration may significantly impact institutional antibiotic use without negatively affecting patient care.

Tedavi –

Hangi antibiyotikler ?

Ne zaman ve nasıl bir Cerrahi girişim

SURGICAL INFECTIONS
Volume 16, Number 6, 2015

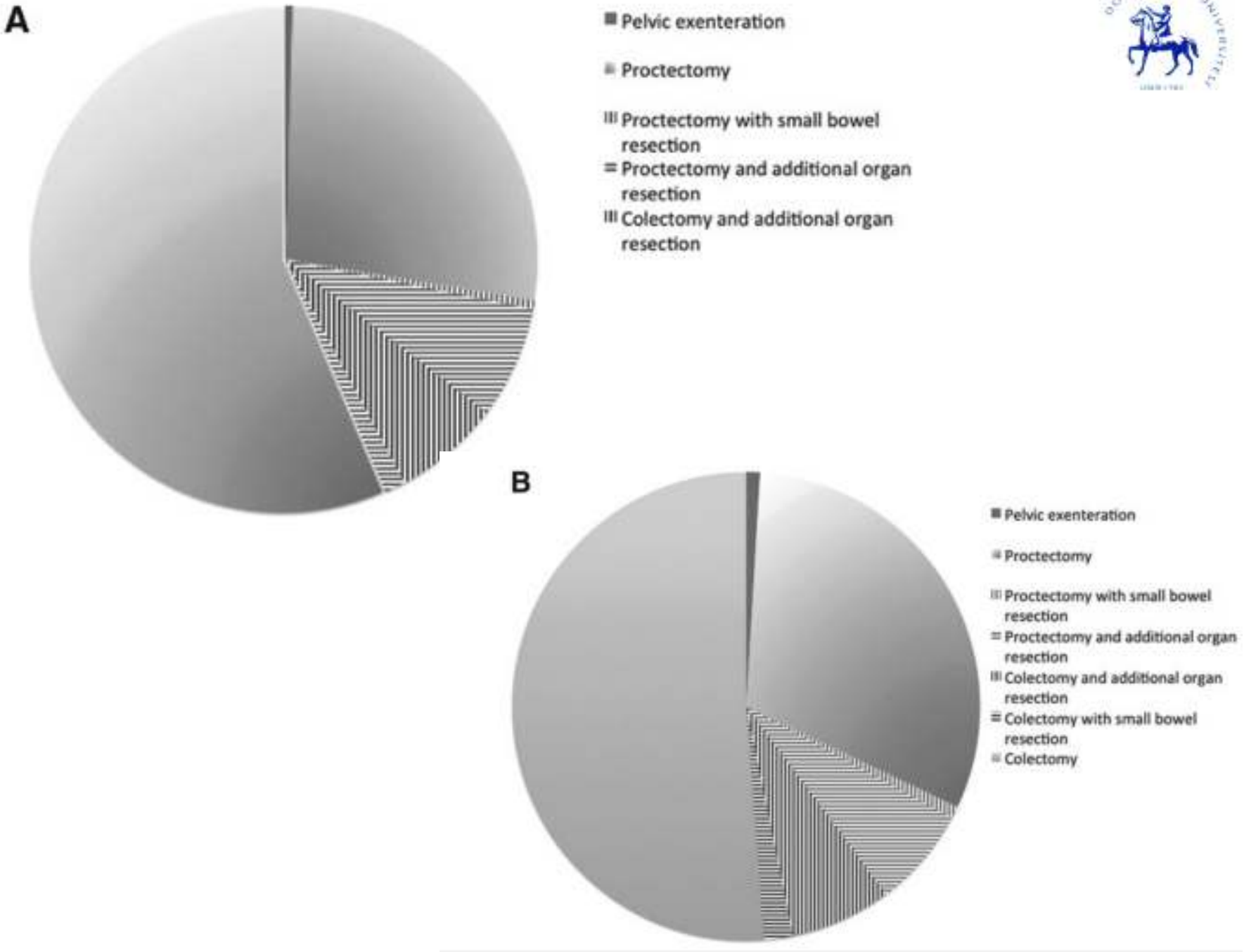
DOI: 10.1089/sur.2014.144

Abdominoperineal Resection, Pelvic Exenteration, and Additional Organ Resection Increase the Risk of Surgical Site Infection after Elective Colorectal Surgery: An American College of Surgeons National Surgical Quality Improvement Program Analysis

Mary R. Kwaan,[1] Genevieve B. Melton,[1] Robert D. Madoff,[1] and Jeffrey G. Chipman[2]

TABLE 1. ADDITIONAL ORGAN RESECTIONS (N = 17,839) AND ASSOCIATED UNADJUSTED WOUND INFECTION RATES

	n	*Proportion of cohort*	*Surgical site infection %*
Additional segmental colectomy	14,046	12.5 %	11.6%
Small bowel resection	2,133	2.7 %	13.7%
Hysterectomy	1,120	1 %	12.4%
Bladder resection	667	0.6 %	16.5%
Partial vaginectomy	334	0.3 %	17.1%
Gastric resection	153	0.14%	7.2%
Splenectomy	150	0.13%	18 %
Major vascular repair	86	0.08%	18.6%
Laparoscopic hysterectomy	44	0.04%	6.8%
Diaphragm resection	35	0.03%	17.1%
Pelvic exenteration	510	0.45%	19.4%


A
Pelvic exenteration
Proctectomy
Proctectomy with small bowel resection
Proctectomy and additional organ resection
Colectomy and additional organ resection
B
Pelvic exenteration
Proctectomy
Proctectomy with small bowel resection
Proctectomy and additional organ resection
Colectomy and additional organ resection
Colectomy with small bowel resection
Colectomy

35–39.9	2.24	[2.08	–2.42]	2.11	[1.96	–2.28]
>40	2.72	[2.49	–2.96]	2.51	[2.30	–2.74]
Pre-operative inpatient hospitalization	1.11	[1.03	–1.18]	1.14	[1.07	–1.22]
Smoker	1.26	[1.19	–1.32]	1.24	[1.18	–1.31]
Diabetes mellitus	1.13	[1.07	–1.20]	1.13	[1.06	–1.19]
Pre-operative weight loss	NS			NS		
Pulmonary comorbidities	1.21	[1.14	–1.28]	1.22	[1.15	–1.3]
Cardiac comorbidity	1.09	[1.01	–1.18]	1.11	[1.03	–1.2]
Peripheral vascular disease	NS			NS		
Disseminated cancer	1.19	[1.08	–1.31]	1.14	[1.04	–1.26]
Immunosuppressive medications or steroid use	NS			NS		
Radiation therapy within 90 d of surgery	1.13	[1.01	–1.26]	1.12	[1.0	–1.25]
Chemotherapy within 30 d of surgery	NS			NS		
Serum albumin <3.0 mg/dL	NS			NS		
Hematocrit >37%	NS			NS		
Hematocrit 29%–37%	NS			NS		
Hematocrit 26%–28%	NS			NS		
Hematocrit <26%	NS			NS		
Benign neoplasm	Reference group					
Colon cancer	0.99	[0.92	–1.07]	0.97	[0.90	–1.04]
Rectal cancer	1.05	[0.95	–1.15]	0.94	[0.85	–1.03]
Diverticular disease	1.11	[1.03	–1.21]	1.10	[1.01	–1.19]
Inflammatory bowel disease	1.24	[1.1	–1.4]	1.12	[0.99	–1.26]
Bowel obstruction	1.47	[1.30	–1.67]	1.40	[1.24	–1.59]
Colonic volvulus	0.99	[0.8	–1.23]	1.04	[0.83	–1.29]
Surgical site infection classification 3 or 4	1.21	[1.14	–1.28]	1.18	[1.11	–1.25]
Stoma procedure included	NS			NS		
Urostomy	NS			NS		
Total proctocolectomy	NS			NS		
Abdominoperineal resection	1.62	[1.46	–1.79]	1.58	[1.42	–1.75]
Pelvic exenteration	1.38	[1.08	–1.78]	1.07	[0.84	–1.38]
Rectal resection	NS			NS		
Laparoscopic approach	0.56	[0.53	–0.59]	0.55	[0.52	–0.57]
Additional organ resection	1.19	[1.12	–1.26]	1.08	[1.02	–1.15]
Soft tissue flap procedure	1.26	[1.00	–1.59]	0.88	[0.70	–1.11]
Operative duration (minutes)	Not included			1.002	[1.002	–1.002]

TABLE 4. RATE OF WOUND INFECTION BY OPERATIVE DURATION

			Procedure subsets stratified by operative time n (%)		
	Surgical site infection %	*Proportion of the entire cohort* n (%)	*Abdominoperineal resection*	*Exenteration*	*Colorectal resection with additional organ resection*
<1 h	5.6%	3,573 (3.2%)	15 (0.3%)	3 (0.6%)	155 (.9%)
1–2 h	6.7%	29,082 (26.4%)	191 (3.9%)	1 (0.2%)	2,287 (13.1%)
2–3 h	8.8%	34,198 (31.0%)	895 (18.4%)	19 (3.8%)	4,986 (28.5%)
3–4 h	9.9%	21,674 (19.7%)	1,245 (25.5%)	44 (8.7%)	4,485 (25.6%)
4–5 h	12.2%	10,936 (9.9%)	975 (20 %)	70 (13.9%)	2,659 (15.2%)
5–6 h	13.6%	5,287 (4.8%)	640 (13.1%)	71 (14.1%)	1,373 (7.8%)
>6 h	15.1%	5,373 (4.9%)	911 (18.7%)	296 (58.7%)	1,537 (8.8%)

Familiarity of the situation
Focusing of attention
Information quantity
Information quality
Instability of the situation
Concentration of attention
Complexity of the situation
Variability of the situation
Arousal
Spare mental capacity

The Situation Awareness Rating Technique uses 10 different dimensions.

Anesthesiology. 2013 Mar;118(3):729-42. doi: 10.1097/ALN.0b013e318280a40f.

Situation awareness in anesthesia: concept and research.

Schulz CM[1], Endsley MR, Kochs EF, Gelb AW, Wagner KJ.

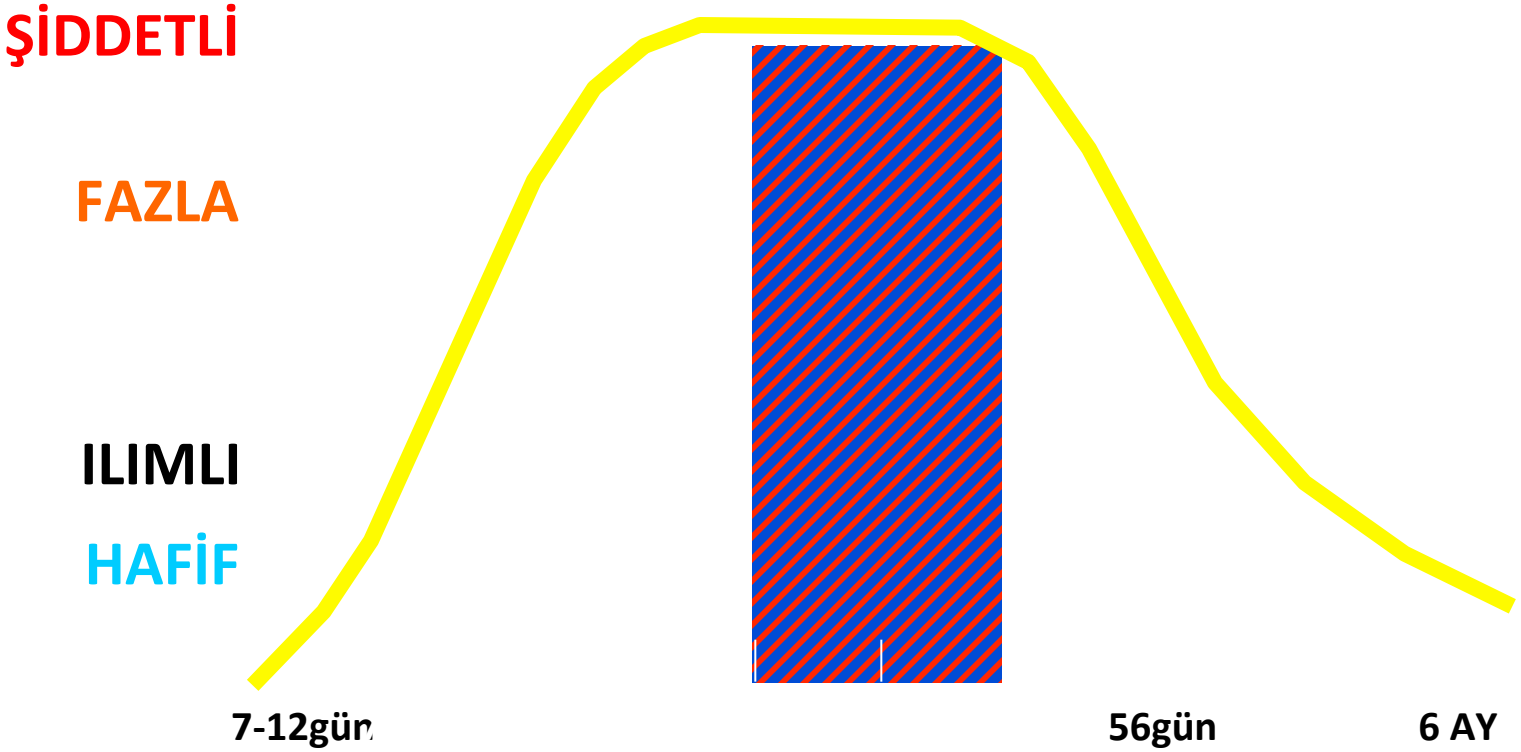
Author information

Abstract

Accurate situation awareness (SA) of medical staff is integral for providing optimal performance during the treatment of patients. An understanding of SA and how it affects treatment of patients is therefore crucial for patient safety and an essential element for research on human factors in anesthesia. This review describes the concept of SA in the anesthesia environment, including the interaction with associated medical teams. Different approaches for its assessment in the work environment of anesthesia are provided. Factors contributing to expertise in SA are described and approaches for the training of SA in anesthesia are discussed, as are types of errors that occur during the development of SA. Finally, the authors briefly present strategies to improve SA during daily anesthesia practice through altered designs of monitor displays.

PMID: 23291626 DOI: 10.1097/ALN.0b013e318280a40f

ADEZYONLARIN ŞİDDETİ



Ne zaman ameliyat edilmeli?

- 4-6 ay bekle

- KARIN DUVARI mobilitesi (fazio manevrası)
  - Her iki el hastanın karnının her iki yanına konur
  - Güçlü bir şekilde ileri-geri hareket ettirilir
  - Rijid('düşman karın') veya HAREKETLİ!
  - Hareketli ise laparotomi daha kolay olacak demektir(adezyonlar yumuşamıştır)

"BEKLENMEYENİN" önlenmesi

- Düzenini kur
- Laboratuvar çalışmaları
- Düzeltilebilir eksiklikleri düzelt
- Doku planlarını ve anatomiyi haritalayabileceğin radyolojik tetkikler
- O gün için başka program yapma
- Üreterik stentler, es/tdp temini, aydınlatma ve thompson retraktör sistemi

Adezyolizis ve relaparotomi tekniği

- Abdomene en kolay yerinden gir
- Ekspojur yeterli olmalı
- Bağırsağı dekomprese et; özellikle interlup
- Birbirine yapışmış lupları karın dışına al
- Üreteri pelvis içinde arama
- Arkanda dolaşımı bozuk yağ dokusu bırakma

Adezyolizis ve relaparotomi tekniği «durumsal farkındalık»

- Keskin diseksiyon
- Sf enjeksiyonu (hidrodiseksiyon)
- Ekstrafasiyal diseksiyon
- Serozal yırtıkları onar
- Emilebilen dikişler kullan
- En zor kısmı en sona bırak
- Pudra ve benzeri kontaminasyon olmamalı

Reoperatif cerrahide risk faktörleri

- Büyük tümörler
- Işınlanmış bağırsak
- Anatomik varyantlar
- Kısa rektal güdük
- Kronik abdominopelvik sepsis
- Yüksek riskli hasta
- Tecrübesiz cerrah

Ülkemizde İntra-abdominal infeksiyonlar

PubMed ▾ intraabdominal infection, TURKEY

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   Knitsch W, Vincent JL, Utzolino S, François B, Dinya T, Dimopoulos G, Özgüneş İ, Valía JC, Eggimann P, León C, Montravers P, Phillips S, Tweddle L, Karas A, Brown M, Cornely OA.
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Sartelli et al. World Journal of Emergency Surgery (2016) 11:33
DOI 10.1186/s13017-016-0089-y

World Journal of Emergency Surgery

REVIEW Open Access

Antimicrobials: a global alliance for optimizing their rational use in intra-abdominal infections (AGORA)

Massimo Sartelli[1*], Dieter G. Weber[2], Etienne Ruppé[3], Matteo Bassetti[4], Brian J. Wright[5], Luca Ansaloni[6], Fausto Catena[7], Federico Coccolini[8], Fikri M. Abu-Zidan[9], Raul Coimbra[10], Ernest E. Moore[11], Frederick A. Moore[12], Ronald V. Maier[13], Jan J. De Waele[14], Andrew W. Kirkpatrick[15], Ewen A. Griffiths[16], Christian Eckmann[17], Adrian J. Brink[18], John E. Mazuski[19], Addison K. May[20], Rob G. Sawyer[21], Dominik Mertz[22], Philippe Montravers[23], Anand Kumar[24], Jason A. Roberts[25], Jean-Louis Vincent[26], Richard R. Watkins[27], Warren Lowman[28], Brad Spellberg[29], Iain J. Abbott[30], Abdulrashid Kayode Adesunkanmi[31], Sara Al-Dahir[32], Majdi N. Al-Hasan[33], Ferdinando Agresta[34], Asma A. Althani[35], Shamshul Ansari[36], Rashid Ansumana[37], Goran Augustin[38], Miklosh Bala[39], Zsolt J. Balogh[40], Oussama Baraket[41], Aneel Bhangu[42], Marcelo A. Beltrán[43], Michael Bernhard[44], Walter L. Biffl[45], Marja A. Boermeester[46], Stephen M. Brecher[47], Jill R. Cherry-Bukowiec[48], Otmar R. Buyne[49], Miguel A. Cainzos[50], Kelly A. Cairns[51], Adrian Camacho-Ortiz[52], Sujith J. Chandy[53], Asri Che Jusoh[54], Alain Chichom-Mefire[55], Caroline Colijn[56], Francesco Corcione[57], Yunfeng Cui[58], Daniel Curcio[59], Samir Delibegovic[60], Zaza Demetrashvili[61], Belinda De Simone[62], Sameer Dhingra[63], José J. Diaz[64], Isidoro Di Carlo[65], Angel Dillip[66], Salomone Di Saverio[67], Michael P. Doyle[68], Gereltuya Dorj[69], Agron Dogjani[70], Hervé Dupont[71], Soumitra R. Eachempati[72], Mushira Abdulaziz Enani[73], Valery N. Egiev[74], Mutasim M. Elmangory[75], Paula Ferrada[76], Joseph R. Fitchett[77], Gustavo P. Fraga[78], Nathalie Guessennd[79], Helen Giamarellou[80], Waqih Ghnnam[81], George Gkiokas[82], Staphanie R. Goldberg[76], Carlos Augusto Gomes[83], Harumi Gomi[84], Manuel Guzmán-Blanco[85], Mainul Haque[86], Sonja Hansen[87], Andreas Hecker[88], Wolfgang R. Heizmann[89], Torsten Herzog[90], Adrien Montcho Hodonou[91], Suk-Kyung Hong[92], Reinhold Kafka-Ritsch[93], Lewis J. Kaplan[94], Garima Kapoor[95], Aleksandar Karamarkovic[96], Martin G. Kees[97], Jakub Kenig[98], Ronald Kiguba[99], Peter K. Kim[100], Yoram Kluger[101], Vladimir Khokha[102], Kaoru Koike[103], Kenneth Y. Y. Kok[104], Victory Kong[105], Matthew C. Knox[106], Kenji Inaba[107], Arda Isik[108],

Introduction

The Enterobacteriaceae, including *Escherichia coli*, *Klebsiella pneumoniae*, *Klebsiella oxytoca*, *Proteus mirabilis*, *Citrobacter* spp. and *Enterobacter* spp., is the family most commonly implicated in the aetiology of both urinary tract infections (UTIs) and intra-abdominal infections (IAIs).[1–3] Over the last decade, a dramatic increase has occurred in the worldwide prevalence of ESBL-positive Enterobacteriaceae, which frequently show resistance to several antibiotic classes, including fluoroquinolones and aminoglycosides,[4–6] and thus represent a challenge for practitioners, further limiting antibiotic therapy choices and adversely impacting pati outcomes.[6–8]

The choice of empirical antimicrobial therapy is guided knowledge of the bacterial spectrum and the extent of antimi bial resistance.[9,10] Given the global increase in antimicrobial res ance, particularly for Gram-negative bacteria, the variability antimicrobial resistance in different geographical regions and c time, and the paucity of novel antibiotics in development, conti ous surveillance of the pathogen prevalence including the pre lence of ESBL producers, as well as of the emergence and trend

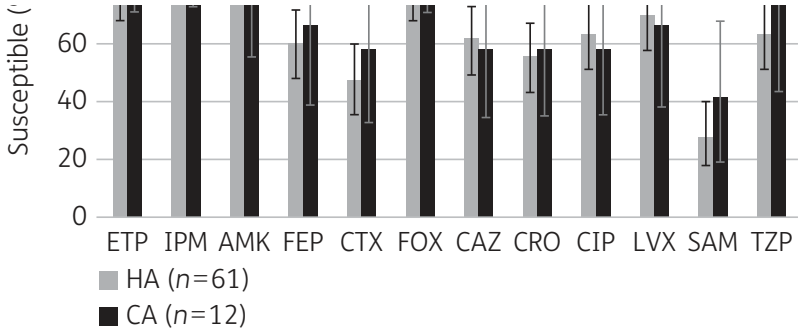

Figure 1. Susceptibility (with 95% CI) for (a) overall Gram-negative isolates and for (b) *E. coli* and (c) *K. pneumoniae* in HA versus CA UTIs in 2011–12. ETP, ertapenem; IPM, imipenem; AMK, amikacin; FEP, cefepime; CTX, cefotaxime; FOX, cefoxitin; CAZ, ceftazidime; CRO, ceftriaxon ciprofloxacin; LVX, levofloxacin; SAM, ampicillin/sulbactam; TZP, piperacillin/tazobactam.

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Original Article

Infectious Complications after Cytoreductive Surgery and Hyperthermic Intra-Peritoneal Chemotherapy

Naciye Cigdem Arslan,[1] Selman Sokmen,[2] Vildan Avkan-Oguz,[3] Funda Obuz,[4] Aras Emre Canda,[2] Cem Terzi,[2] and Mehmet Fuzun[2]

Abstract

Background: The aim of this study was to review the post-operative and infectious complications and determine the risk factors associated with infections in cytoreductive surgery (CRS) and hyperthermic intra-peritoneal chemotherapy (HIPEC).

Patients and Methods: Between October 2007 and December 2013, patients who underwent CRS and HIPEC with a

MICRO-ORGANISMS ISOLATED FROM CULTURES

	Infections (n, %)			
Microorganisms	*Surgical site*	*Blood stream*	*Pulmonary*	*Urinary tract*
Escherichia coli/ESBL+	19 (53)/9	4 (44)/4	-	10 (71)/3
Klebsiella pneumoniae/ESBL+	6 (17)	4 (44)/1	-	2 (14)
Enterococcus spp	10 (28)	1 (11)	-	-
Staphylococcus spp	-	1 (11)	2 (23)	-
Acinetobacter spp	-	2 (23)	2 (23)	-
Pseudomonas aeruginosa	2 (6)	1 (11)	-	2 (14)
Candida albicans	6 (17)	6 (67)	3 (27)	6 (43)
Others	2 (6)	1 (11)	-	-

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INFECTIONS IN PERITONEAL CARCINOMATOSIS TREATMENT

TABLE 5. DETAILS OF THE PATIENTS WITH PERI-OPERATIVE MORTALITY

Patient	*Complications*	*Culture*
#1	Pneumonia, nephrotoxicity	*Pseudomonas aeruginosa*
#2	Anastomotic leak, urinary leak, hematotoxicity (febrile neutropenia), SSI, BSI	*C. albicans, K. pneumoniae* (ESBL+)
#3	SSI, BSI, nephrotoxicity, hematotoxicity (febrile neutropenia)	*C. albicans, E. coli* (ESBL+), MR-CoNS, *K. pneumoniae*
#4	Anastomotic leak, SSI, BSI, UTI	*C. albicans, E. coli* (ESBL+), *Klebsiella, S. aurius*
#5	Pneumonia, UTI	*C. albicans, Acinetobacter sp.*
#6	Pneumonia, BSI, SSI, nephrotoxicity, hematotoxicity (febrile neutropenia)	*Acinetobacter sp, E. coli*
#7	Pleural effusion, SSI, BSI	*C. albicans, E. coli*
#8	Pneumonia, iatrogenic small bowel injury, SSI, BSI, hematotoxicity (febrile neutropenia)	*C. albicans, E. coli*
#9	Pneumonia, nephrotoxicity, hematotoxicity	NA
#10	Pneumonia, urinary leak	NA
#11	Stroke	-

SONUÇ - I

- Multidisipliner ekip birlikte öğrenir.
- Toplum kaynaklı – Sağlık bakımı ilişkili ?
- 72. saatte antimikrobiyal tedavi yanıtı değerlendirilmeli
- Ağır yaygın kompleks kanser olgularında komplikasyon (İnfeksiyöz + Cerrahi) BEKLENİR

SONUÇ

- Bir merkez/ekibin onkolojik başarı ölçütü komplikasyonları tedavi edebilmesi ile değerlendirilir.

  ' Failure to rescue ' kavramı

- Reoperasyon, tekrarlayan girişimler ;

  Mortalite ve hastanede yatış süresini uzatır

  İnfeksiyon riski ? Maliyet ?

- İnfeksiyon - Önce olay yeri incelenmeli

  (Abdominal pnömoni aranmalı !!!)