Tüberküloz Peritonit

Dr. Dilek Yıldız Sevgi
Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji
Şişli Hamidiye Etfal Eğitim ve Araştırma Hastanesi

Z. S, 1992 doğumlu, K

Şikayeti:

Karın ağrısı, bulantı, kusma, yüksek ateş.

Hikayesi:

20 gündür şikayetleri devam ediyor

Acil Servis ve Dahiliye Polikliniği tarafından semptomatik tedavi düzenlenmiş

16.07.2011' de Acil Polikliniğimize karın ağrısı ile başvurmuş.

Özgeçmiş: Özellik yok.

Soygeçmiş: Özellik yok.

Ailede tüberküloz öyküsü yok.

Fizik Muayene

TA: 110/70 mmHg, nabız: 76/ dk.

Bilinç açık, oryante, koopere.

Deri doğal, döküntü yok.

Batında yaygın hassasiyet ve rebound (+).
Diğer sistem muayeneleri doğal.

Laboratuar

- WBC: 4130u/L
- Nötrofil %70
- Lenfosit %10,4
- Monosit %18.9
- Eozinofil %0.5
- RBC: 4.500.000/u/L
- Hgb:11,5 g/dL
- Hct: %35.9
- PLT: 375.000U/L

Laboratuar

- Glukoz: 82 mg/dL
- Üre: 16 mg/dl
- Kreatinin: 0.55 mg/dL
- ALT: 22 U/L, AST: 26 U/L
- LDH: 311 U/L
- Total bilirubin: 0,55mg/dl
- Amilaz: 57 U/L
- **T.protein: 6 gr/dl** (6,4-8,3)
- **Albumin: 3.3 gr/dl** (3,5-5,2)
- Globulin: 2.7 gr/dl

- **Sodyum: 133 mmol/l** (136-145)
- Potasyum: 3.9 mmol/l
- **Klor: 97 mmol/l** (98-106)
- Kalsiyum: 8.9 mg/dl
- Fosfor: 2.50 mg/dl
- **CRP:118 mg/L**

- Batın USG: Hepatomegali, splenomegali, batın alt kadranlarda daha belirgin serbest sıvı, sağ alt kadranda birkaç adet lenf bezi
- Akut batın ön tanısı ile acil operasyona alınıyor

- Batından 1000cc mayi aspirasyonu
- Omentum incebarsak mezosu ve intestinal anslarda en büyüğü 1 varan hiperemik frajil lezyonlar
- Patoloji ve mikrobiyoloji örnekleri alınmış

- Hasta kliniğimize alındı
- PPD anerjik
- ESR: 68mm/Hg
- Dörtlü antitüberküloz tedavi başlandı

Patoloji

- Kazeifiye kronik granülamatöz iltihabi infiltrasyon

Mikobakteri Kültürü(Diğer)	BİYOPSİ
EZN Boyama	ARB görülmedi.
Auramine Rhodamine Floresan Boyama	ARB görülmedi.

Mycobacterium tüberculosis complex üredi.

	Sonuç
ETHAMBUTOL (3,5 ug/ml)	Hassas
ISONIAZID (0,1 ug/ml)	Hassas
RIFAMPIN (1ug/ml)	Hassas
STREPTOMYCİN (0,8 ug/ml)	Hassas

Ülkemizde Tüberküloz

Turkey

Tuberculosis profile

Population 2014 **78 million**

Estimates of TB burden * 2014	Number (thousands)	Rate (per 100 000 population)
Mortality (excludes HIV+TB)	0.47 (0.4–0.55)	0.61 (0.52–0.7)
Mortality (HIV+TB only)	<0.01 (<0.01–0.012)	0.01 (0.01–0.02)
Prevalence (includes HIV+TB)	17 (8–30)	22 (10–39)
Incidence (includes HIV+TB)	14 (12–16)	18 (16–21)
Incidence (HIV+TB only)	0.045 (0.035–0.057)	0.06 (0.05–0.07)

Case detection, all forms (%)	93 (82–110)

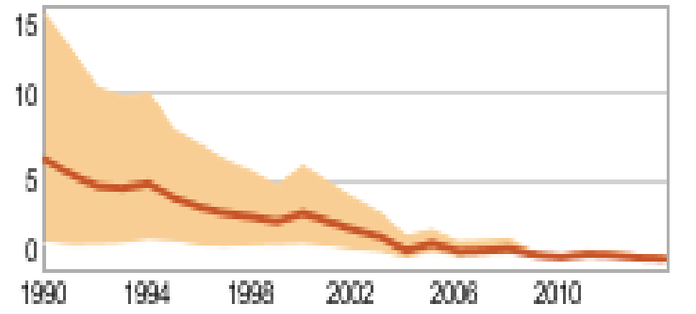
Estimates of MDR-TB burden * 2014	New	Retreatment
% of TB cases with MDR-TB	2.5 (2.1–3)	18 (15–21)
MDR-TB cases among notified pulmonary TB cases	190 (160–230)	170 (140–200)

TB case notifications 2014	New **	Relapse
Pulmonary, bacteriologically confirmed	5 799	568
Pulmonary, clinically diagnosed	1 897	119
Extrapulmonary	4 557	168

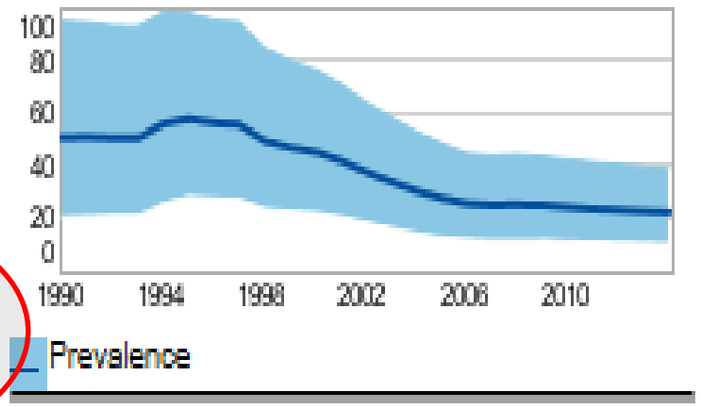
Total new and relapse	**13 108**
Previously treated, excluding relapses	270
Total cases notified	**13 378**

Among 13 108 new and relapse cases:
550 (4%) cases aged under 15 years; male:female ratio: 1.3

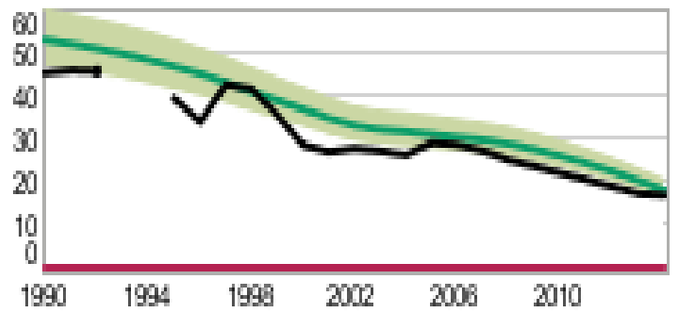
(Rate per 100 000 population per year)



(Rate per 100 000 population)



(Rate per 100 000 population per year)



Data are as reported to WHO. Estimates of TB and MDR-TB burden are produced by WHO in consultation with countries.
Generated: 2016-02-02

Data: www.who.int/tb/data

Ekstrapulmoner Tüberküloz

Lenfadenit

Genitoüriner

Kemik-eklem

Milier

Menenjit

Gastrointestinal

Contents lists available at ScienceDirect

European Journal of Internal Medicine

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

Original article

Extrapulmonary tuberculosis: 7 year-experience of a tertiary center in Istanbul

Dılek Yıldız Sevgi [a,*], Okan Derin [a], Alı Seydı Alpay [a], Alper Gündüz [a], Ahmet Sanlı Konuklar [a], Banu Bayraktar [b], Emin Bulut [b], Nuray Uzun [a], Emine Sonmez [c]

[a] Department of Infectious Diseases and Clinical Microbiology, Sisli Etfal Training and Research Hospital, Istanbul, Turkey
[b] Department of Clinical Microbiology, Sisli Etfal Training and Research Hospital, Istanbul, Turkey
[c] Department of Infectious Diseases and Clinical Microbiology, Istanbul Bilim University, Medical Faculty, Istanbul, Turkey

ARTICLE INFO

Article history:
Received 15 August 2012
Received in revised form 11 June 2013
Accepted 24 August 2013
Available online xxxx

Keywords:
Extrapulmonary tuberculosis
Istanbul
Turkey

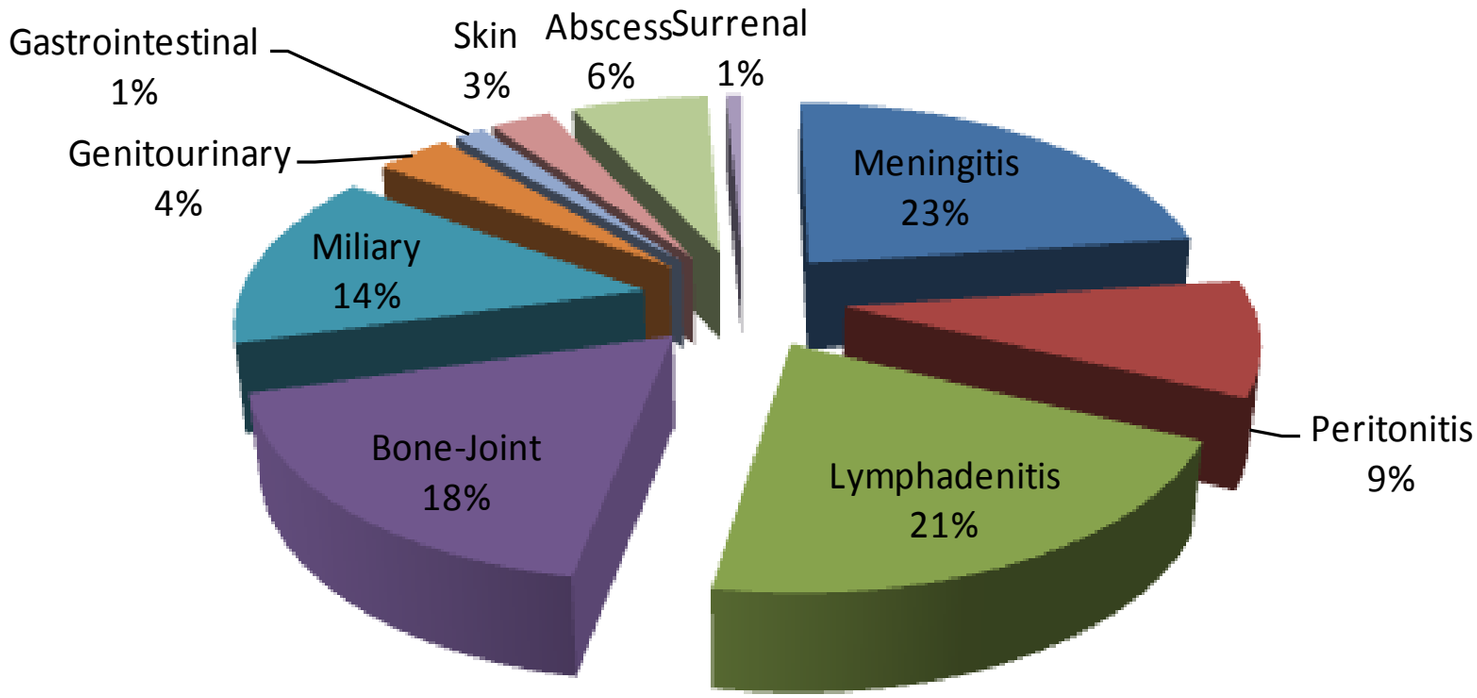
ABSTRACT

Background: Although a decreasing trend of tuberculosis (TB) was reported in Turkey, higher proportion of extrapulmonary tuberculosis (EPT) was revealed.
Material and methods: In this retrospective study, clinical and laboratory data of 141 EPT patients were evaluated for a seven-year period by using descriptive statistics, and parametric and non-parametric tests where appropriate.
Results: The most frequent types of EPT were meningeal TB (23%) and TB lymphadenitis (21%), respectively. Other types of EPT were skeletal, miliary, peritoneal, abscess, genitourinarial, cutaneous and gastrointestinal involvement which ranged between 18% and 1%. Mean age was 42 and female/male ratio was almost equal. All patients were born in Turkey. Although all of them were permanent residents of Istanbul, 73% of the patients came from East and Southeast Region of Turkey. For the patients, being older than 40 years old ($p < 0.01$), having miliary TB ($p < 0.05$) and high CRP levels ($p < 0.05$) were found to be associated with mortality.
Conclusions: EPT still remains as a significant morbidity and mortality reason in lower income populations and developing countries. In our study, although all patients were residents of Istanbul approximately two thirds of them have migrated from East and Southeast parts of the country. The relatively high prevelance of tuberculosis cases in Istanbul may be due to the permanent migration from other parts of the country. Early diagnosis and initiation of appropriate treatment are the keys for reducing morbidity and mortality in patients with EPT, particularly in the cases of older ages.
© 2013 European Federation of Internal Medicine. Published by Elsevier B.V. All rights reserved.

1. Introduction

Mycobacterium tuberculosis has infected one third of world's population. The incidence of TB has decreased from 52/100.000 in 1990 to 25/100.000 in 2009. However, the proportion of extrapulmonary tuberculosis (EPT) has increased among all TB cases. The proportion increased from 28.6% to 35.4% between 2005 and 2009

Figure 1. Distribution of Patients with ETB by site of involvement



- 13 hasta, 5'i erkek
- 18-75 yaş arası
- ARB pozitifliği: 4 hasta
- ARB kültür: 10 hasta
- Patolojik tanı: 7 hasta
- Periton diyalizi: 3 hasta
- Siroz: 1 hasta

Tüberküloz Peritonit

- CDC raporuna göre 6. sırada
- Her yaşta görülebilir
- En sık üçüncü ve dördüncü dekatta
- Gelişmekte olan ülkelerde kadınlar, gelişmiş ülkelerde erkekler daha çok etkilenmekte

Retrospektif çalışma

1994-2000 yılları arasında

Periton diyalizi

790 hasta, 38 tüberküloz

Akciğer tüberkülozu:18 hasta

Tüberküloz peritonit: 14 hasta

Tüberküloz lenfadenit: 5 hasta

Tüberküloz artrit: 1 hasta

Ölüm: 11 hasta

Risk artışı

- Siroz
- HIV infeksiyonu
- Diabetes mellitus
- Malignite
- Kortikosteroid veya immunsupresif ajanlar ile tedavi
- Periton diyalizi

Original Article

Tuberculosis in dialysis patients: a nine-year retrospective analysis

Abdulkadir Unsal, Elbis Ahbap, Taner Basturk, Yener Koc, Tamer Sakaci, Ayse Sinangil Arar, Hasan Kayabasi, Mustafa Sevinc

Division of Nephrology, Sisli Etfal Research and Education Hospital, Istanbul, Turkey

Abstract

Introduction: Diagnosis of tuberculosis (TB) among dialysis patients may be difficult because of increased frequency of extra-pulmonary presentations, atypical clinical manifestations, and non-specific symptoms. This study aimed to investigate the spectrum of clinical presentations and outcome in dialysis patients during a nine-year period.

Methodology: A total of 651 patients undergoing hemodialysis (HD) and peritoneal dialysis (PD) for at least three months in our unit between 2001 and 2010 were studied. Dialysis and follow-up were performed in our tertiary care center located in the eastern region of Turkey. Diagnosis of TB was established by combining clinical, radiological, biochemical, microbiological, and histological findings. Choice of anti-TB drug used, the results of therapy, and patient outcome were noted.

Results: Out of 651 dialysis patients studied, 322 (49.4%) were on PD and the remainder on HD (50.6%). Twenty-six (4%) of the 651 dialysis patients were diagnosed with TB (15 PD, 11 HD), 5 of whom were diagnosed by microbiological assessment, 9 by pathological assessment, and 12 by clinical and radiological findings. Mean age at diagnosis was 41.5 ± 16.5 years and the female/male ratio was 1.18. Three patients had a history of pulmonary TB. Extra-pulmonary involvement was observed in 17 (65.4%) patients. All patients were treated with rifampicin isoniazid, ethambutol, pyrazinamide and pyridoxine. Four patients died during the study.

Conclusion: TB occurred in dialysis patients and extra-pulmonary TB was more commonly identified than pulmonary TB. Tuberculous lymphadenitis was the most frequent form of extra-pulmonary TB in our cohort.

Key words: tuberculosis; peritoneal dialysis; haemodialysis; ESRD

J Infect Dev Ctries 2013; 7(3):208-213.

Patogenez

- Çoğunlukla primer akciğer odağından hematojenoz yol ile peritonda oluşan latent odakların reaktivasyonu
- Aktif milier ya da akciğer tüberkülozun hematojen yayılımı
- Komşuluk: İncebağırsak tüberküloz ya da tüberküloz salpenjit

Klinik

- Subakut
- Haftalar-Aylar
- Daha sık yaş tip: asit
- Plastik ya da kuru tip: kitle

Klinik

		Sıklık (%)
Sistemik semptomlar	Ateş	45-100
	Kilo kaybı	61
Abdominal semptomlar	Karın ağrısı	31-94
	İshal	21'e varan
Bulgular	Karında hassasiyet	47,7
	Asit	73
	Kitle	6-40

Laboratuar

- Lökosit sayısı çoğunlukla normal
- Normokrom normositik anemi
- ESR yüksekliği
- Akciğer grafisinde tüberküloz kanıtı %19-83
- PPD %50 hastada pozitif
- Serum CA-125 düzeyinde artış

Tanı

- Klinik şüphe gerekli
- Serum-asit albumin gradiyenti <1.1 g/dL olan lenfositik asitte düşünülmeli
- Altın standart: Asit sıvısı ya da biyopsi materyalinde M. tuberculosis üremesi

Radyoloji: USG

- Asit (%30-100)
- Çok sayıdaki ince fibrin iplikler
- Periton kalınlaşması

Radyoloji: BT

- BT: Bağırsak kalınlaşması, abdominal LAP için USG'den daha duyarlı
- Peritonitis karsinomatoza ayırıcı tanısında yardımcı

Periton Sıvısı

	Sıklık (%)
Protein >3gr	84-100
Lenfosit hakimiyeti	68
ADA	100’e varan
ARB pozitifliği	3
Kültür	35
Gamainterferon düzeyi	93

J Clin Gastroenterol. 2006 Sep;40(8):705-10.

Value of adenosine deaminase (ADA) in ascitic fluid for the diagnosis of tuberculous peritonitis: a meta-analysis.

Riquelme A[1], Calvo M, Salech F, Valderrama S, Pattillo A, Arellano M, Arrese M, Soza A, Viviani P, Letelier LM.

Author information

[1]Faculty of Medicine, Department of Gastroenterology, Pontificia Universidad Católica de Chile, Santiago, Chile.

- 12 prospektif çalışma
- 264 hasta
- %100 duyarlılık, %97 özgüllük

Laparoskopi

- Peritonun gözlenmesi
- Tanı için patolojik ve mikrobiyolojik örnek alınması
- Laparoskopi ve biyopsi %90 tanı koydurucu
- Komplikasyon: <%3
- Perforasyon, kanama, ölüm

Laparoskopik görünüm

- Periton kalınlaşması, milyer nodüller, asit (%66)
- Periton kalınlaşması, asit ve adhezyon (%21)
- Periton belirgin kalınlaşması, sarı nodüller, aşırı adhezyon (%13)

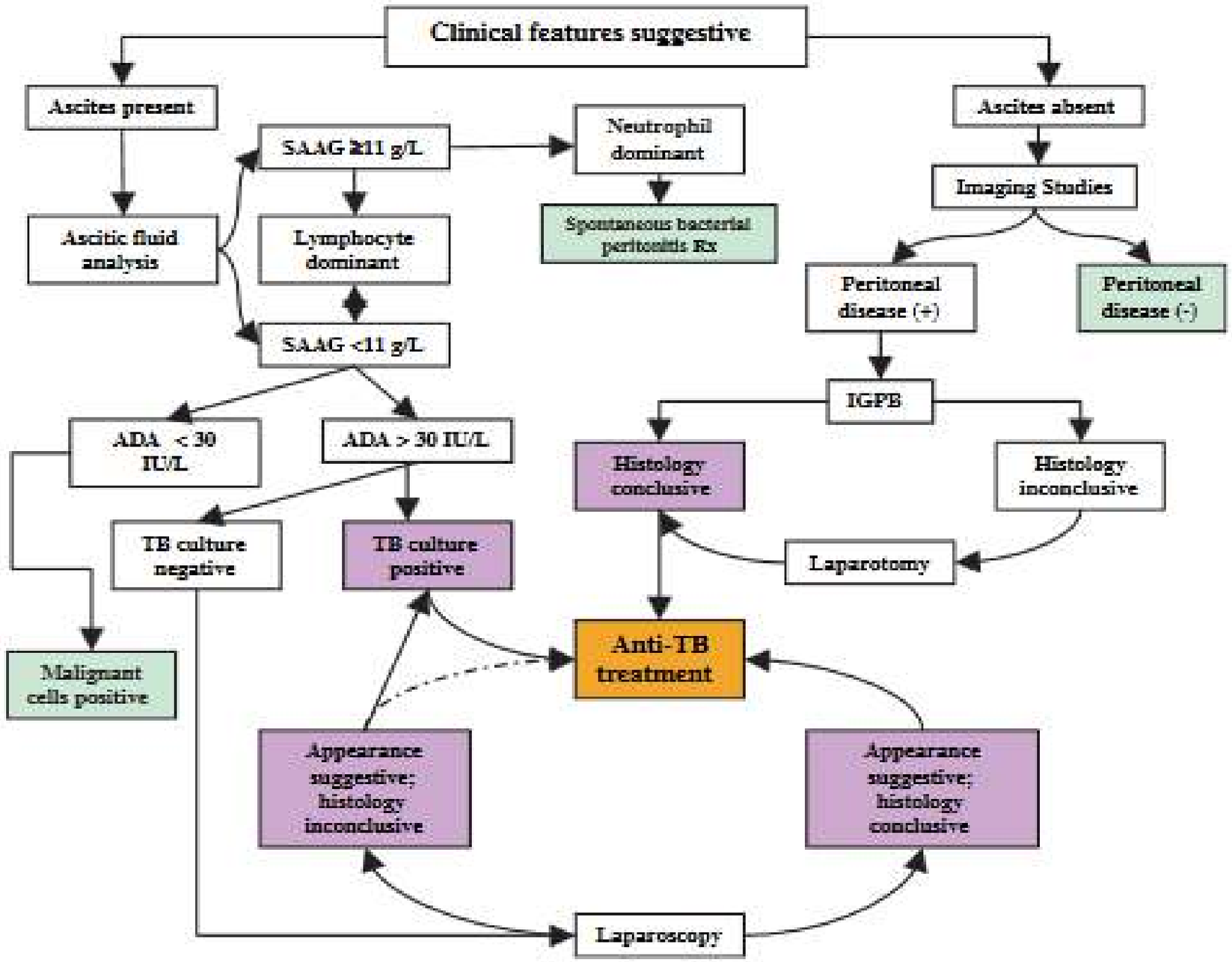
AP&T Alimentary Pharmacology and Therapeutics

Aliment Pharmacol Ther 2005; 22: 685–700. doi: 10.1111/j.1365-2036.2005.02645.x

Systematic review: tuberculous peritonitis – presenting features, diagnostic strategies and treatment

F. M. SANAI & K. I. BZEIZI
Division of Hepatology, Department of Internal Medicine, Riyadh, Saudi Arabia

Accepted for publication 27 July 2005


Clinical features suggestive
Ascites present
Ascites absent
Ascitic fluid analysis
SAAG ≥11 g/L
Neutrophil dominant
Spontaneous bacterial peritonitis Rx
Lymphocyte dominant
SAAG <11 g/L
Imaging Studies
Peritoneal disease (+)
Peritoneal disease (-)
IGPB
ADA < 30 IU/L
ADA > 30 IU/L
Histology conclusive
Histology inconclusive
TB culture negative
TB culture positive
Laparotomy
Malignant cells positive
Anti-TB treatment
Appearance suggestive; histology inconclusive
Appearance suggestive; histology conclusive
Laparoscopy

Tuberculous Peritonitis–Associated Mortality Is High among Patients Waiting for the Results of Mycobacterial Cultures of Ascitic Fluid Samples

Kai Ming Chow,[1] Viola Chi Ying Chow,[2] Lawrence Cheung Tsui Hung,[1] Shiu Man Wong,[1] and Cheuk Chun Szeto[1]

Departments of [1]Medicine and Therapeutics and [2]Microbiology, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, Hong Kong, China

Clin Infect Dis. 2002 Aug 15;35(4):409-13. Epub 2002 Jul 17.

Table 1. Comparison of patients who survived and patients who died of tuberculous peritonitis.

Variable	Patients who survived (n = 28)	Patients who died (n = 31)	P[a]
No. of male/no. of female patients	14/14	21/10	.20
Age, mean years ± SD	46 ± 17	60 ± 16	.001[b]
Coexisting diseases or therapy received			
Diabetes mellitus	5 (18)	11 (35)	.11
Cirrhosis	6 (21)	16 (52)	.01
Alcoholism	6 (21)	2 (6)	.16[c]
Renal failure on dialysis	10 (36)	8 (26)	.46
Malignancy	6 (21)	6 (19)	.33
Corticosteroid therapy	2 (7)	4 (13)	.44[c]
Previous tuberculosis	3 (11)	2 (6)	.61[c]
Concurrent tuberculosis			
Pulmonary	9 (32)	12 (39)	.54
Extrapulmonary	9 (32)	7 (23)	.45
Peritoneal biopsy performed	9 (32)	0 (0)	.001[c]
Treatment initiated ≤6 weeks after presentation	20 (71)	8 (26)	.001

NOTE. Data are no. (%) of patients, unless otherwise indicated.

[a] Determined by use of the χ^2 test, unless otherwise indicated.

[b] Determined by use of Student's t test.

[c] Determined by use of Fisher's exact test.

Ayırıcı Tanı

- Malignite: Over kanseri, peritonitis karsinomatoza
- Spontan bakteriyel peritonit

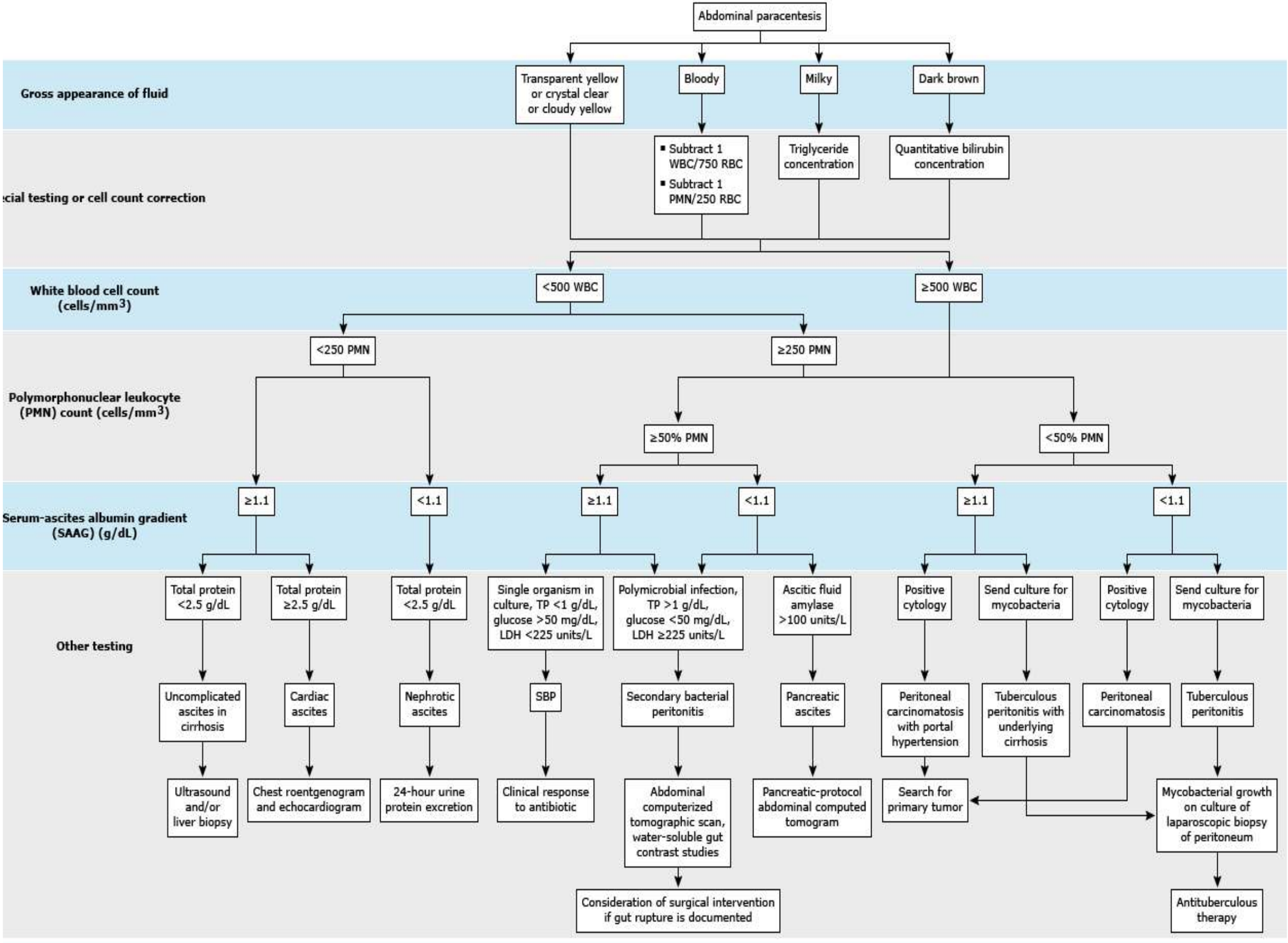
Tedavi

- Primer tedavi medikal
- Akciğer tüberkülozu gibi
- İlk 2-3 ay steroid eklenebilir
- Cerrahi: Barsak perforasyonu, ileus, fistül,abse, hemoraji

Prognoz

- Mortalite %8-50
- Kötü prognoz: İleri yaş, tedavinin geç başlaması, siroz.

Teşekkür ederim...


Abdominal paracentesis
Gross appearance of fluid
Transparent yellow or crystal clear or cloudy yellow
Bloody
Milky
Dark brown
cial testing or cell count correction
Subtract 1 WBC/750 RBC
Subtract 1 PMN/250 RBC
Triglyceride concentration
Quantitative bilirubin concentration
White blood cell count (cells/mm3)
<500 WBC
≥500 WBC
Polymorphonuclear leukocyte (PMN) count (cells/mm3)
<250 PMN
≥250 PMN
≥50% PMN
<50% PMN
Serum-ascites albumin gradient (SAAG) (g/dL)
≥1.1
<1.1
≥1.1
<1.1
≥1.1
<1.1
Other testing
Total protein <2.5 g/dL
Total protein ≥2.5 g/dL
Total protein <2.5 g/dL
Single organism in culture, TP <1 g/dL, glucose >50 mg/dL, LDH <225 units/L
Polymicrobial infection, TP >1 g/dL, glucose <50 mg/dL, LDH ≥225 units/L
Ascitic fluid amylase >100 units/L
Positive cytology
Send culture for mycobacteria
Positive cytology
Send culture for mycobacteria
Uncomplicated ascites in cirrhosis
Cardiac ascites
Nephrotic ascites
SBP
Secondary bacterial peritonitis
Pancreatic ascites
Peritoneal carcinomatosis with portal hypertension
Tuberculous peritonitis with underlying cirrhosis
Peritoneal carcinomatosis
Tuberculous peritonitis
Ultrasound and/or liver biopsy
Chest roentgenogram and echocardiogram
24-hour urine protein excretion
Clinical response to antibiotic
Abdominal computerized tomographic scan, water-soluble gut contrast studies
Pancreatic-protocol abdominal computed tomogram
Search for primary tumor
Mycobacterial growth on culture of laparoscopic biopsy of peritoneum
Consideration of surgical intervention if gut rupture is documented
Antituberculous therapy

Am J Kidney Dis. 2001 Nov;38(5):1055-60.

Tuberculosis infection in Chinese patients undergoing continuous ambulatory peritoneal dialysis.

Lui SL[1], Tang S, Li FK, Choy BY, Chan TM, Lo WK, Lai KN.

[1]Division of Nephrology, University Department of Medicine, Tung Wah Hospital, Sheung Wan, Hong Kong.

Abstract

A retrospective study of the prevalence and pattern of tuberculosis in patients undergoing continuous ambulatory peritoneal dialysis (CAPD) was performed. Thirty-eight cases of tuberculosis were diagnosed among 790 patients (18 men, 20 women; mean age, 58 +/- 12.6 years) between July 1994 and June 2000. The interval between the initiation of CAPD and onset of tuberculosis ranged from 1 to 168 months (median, 22 months). There were 18 cases of pulmonary tuberculosis, 14 cases of tuberculous peritonitis, 5 cases of tuberculous lymphadenitis, and 1 case of tuberculous synovitis. Patients with pulmonary tuberculosis usually presented with fever, constitutional symptoms, and pleural effusion or pulmonary infiltrates on chest radiograph. Abdominal pain and turbid dialysate were the main presenting symptoms in patients with tuberculous peritonitis. Diagnosis was established by positive culture in 20 patients, typical histological characteristics on a tissue biopsy specimen in 10 patients, and response to empirical antituberculous treatment in 8 patients. The duration of symptoms before the diagnosis of tuberculosis and initiation of antituberculous treatment ranged from 7 to 57 days (median, 30 days). Antituberculous treatment consisted of isoniazid, rifampicin, pyrazinamide, and ofloxacin for 9 to 15 months. Antituberculous treatment generally was well tolerated. Twenty-seven patients (71%) completed antituberculous treatment. No recurrence of tuberculosis was observed after a mean follow-up of 19.8 months. Eleven patients (29%) died while on antituberculous treatment; none of the deaths appeared to be directly caused by tuberculosis. We conclude that: (1) tuberculosis is prevalent among CAPD patients in our locality; (2) extrapulmonary tuberculosis, particularly tuberculous peritonitis, is common; and (3) a high index of suspicion for tuberculosis among CAPD patients is warranted to ensure early diagnosis and prompt initiation of treatment.

PMID: 11684559 [PubMed - indexed for MEDLINE]

J Clin Gastroenterol. 2006 Sep;40(8):705-10.

Value of adenosine deaminase (ADA) in ascitic fluid for the diagnosis of tuberculous peritonitis: a meta-analysis.

Riquelme A[1], Calvo M, Salech F, Valderrama S, Pattillo A, Arellano M, Arrese M, Soza A, Viviani P, Letelier LM.
Author information:

[1]Faculty of Medicine, Department of Gastroenterology, Pontificia Universidad Católica de Chile, Santiago, Chile.

Abstract

BACKGROUND AND GOALS:

Adenosine deaminase (ADA) levels are used for diagnosing tuberculosis in several locations and although many studies have evaluated ADA levels in ascitic fluid. These studies have defined arbitrary cut-off points creating difficulties in the clinical application of the results. The goals of this study are: to determine the usefulness of ADA levels in ascitic fluid as a diagnostic test for peritoneal tuberculosis (PTB) and define the best cut-off point.

STUDY:

A systematic review was done on the basis of 2 independent searches. We selected prospective studies that included consecutive patients. Diagnosis of PTB had to be confirmed by bacteriologic or histologic methods and ADA levels determined by the Giusti method. Inclusion/exclusion criteria were applied by 2 independent reviewers. A receiver operating characteristic curve was constructed to establish the optimal cut-off point and the likelihood ratios (LRs) estimated using fixed-effect pooled method.

RESULTS:

Twelve prospective studies were found. Four of them met the inclusion criteria and were thus included in the meta-analysis. They included 264 patients, of which 50 (18.9%) had PTB. ADA levels showed high sensitivity (100%) and specificity (97%) using cut-off values from 36 to 40 IU/L. The included studies were homogeneous. Optimal cut-off point was determined at 39 IU/L, and LRs were 26.8 and 0.038 for values above and below this cut-off.

CONCLUSIONS:

This study supports the proposition that ADA determination is a fast and discriminating test for diagnosing PTB with an optimal cut-off value of 39 IU/L.