

25. TÜRK KLİNİK MİKROBİYOLOJİ VE İNFEKSİYON HASTALIKLARI KONGRESİ

24-27 NİSAN 2025
PINE BEACH BELEK / ANTALYA

Büyük Vizit

Olgu-3



Dr. Yasemin ÇAKIR KIYMAZ

Sivas Cumhuriyet Üniversitesi Tıp Fakültesi

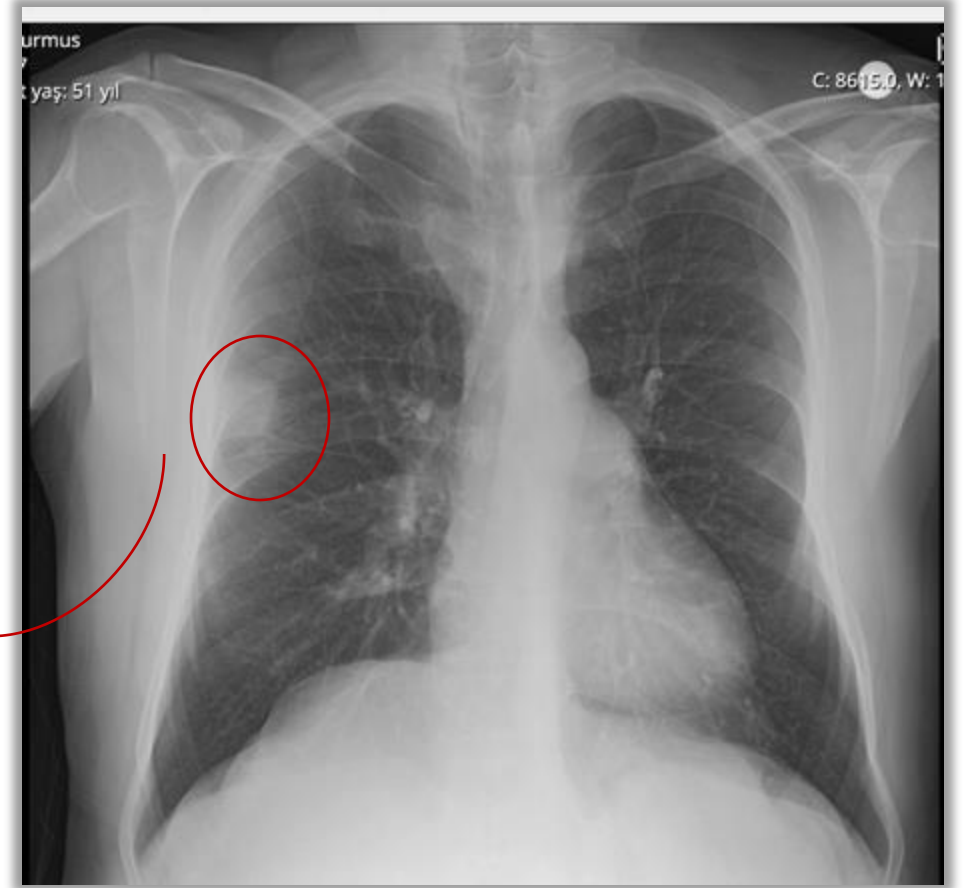
İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji ABD



OLGU

- 51 yaşımda, erkek hasta
- **Ateş, öksürük ve balgam**
- Göğüs hastalıkları
- Bilinen astım tanılı

Sağ akciğer ön üst lobda
plevra tabanlı bir kitle lezyonu



Öykü

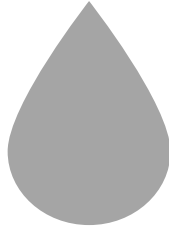
- **Ateş, öksürük ve balgam (2 hafta)**
- Özgeçmiş-Soygeçmiş: Astım
- Meslek: Çiftçi

Sigara yok
Tbc öyküsü/teması
Kilo kaybı yok

Fizik Muayene

- Ateş:36.0°C Nb:78/dk
- TA:120/70 mmHg Sat:98/dk
- Genel durum iyi, bilinç açık, oryante koopere
- Ense sertliği yok
- **Sağ akciğer üst lobda solunum sesleri azalmış**
- Kardiyak muayenesinde ek ses yok üfürüm yok
- Batın hassasiyet, defans, rebound yok
- KVAH bilateral yok
- Cilt ve mukozalar doğal, döküntü yok

Laboratuvar



Hemogram

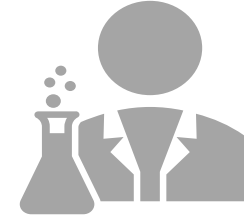
Lökosit: 15 100/mm³

Nötrofil: 10 090/mm³ (%66)

Lenfosit: 4 300/mm³ (%28)

Hemoglobin: 14.7 g/dl

Trombosit: 219 000/mm³



Biyokimya

AST: 13 U/L

ALT: 34 U/L

Kreatin: 0,5 mg/dL

CRP: 2 mg/dL (0-5)

Sedim: 19 mm/h

Ön tanı

- Ateş
- Öksürük
- Balgam
- Göğüs ağrısı



Göğüs hastalıkları

Akciğer BT



Pnömoni



- Astım tanılı
- Sigara öyküsü yok

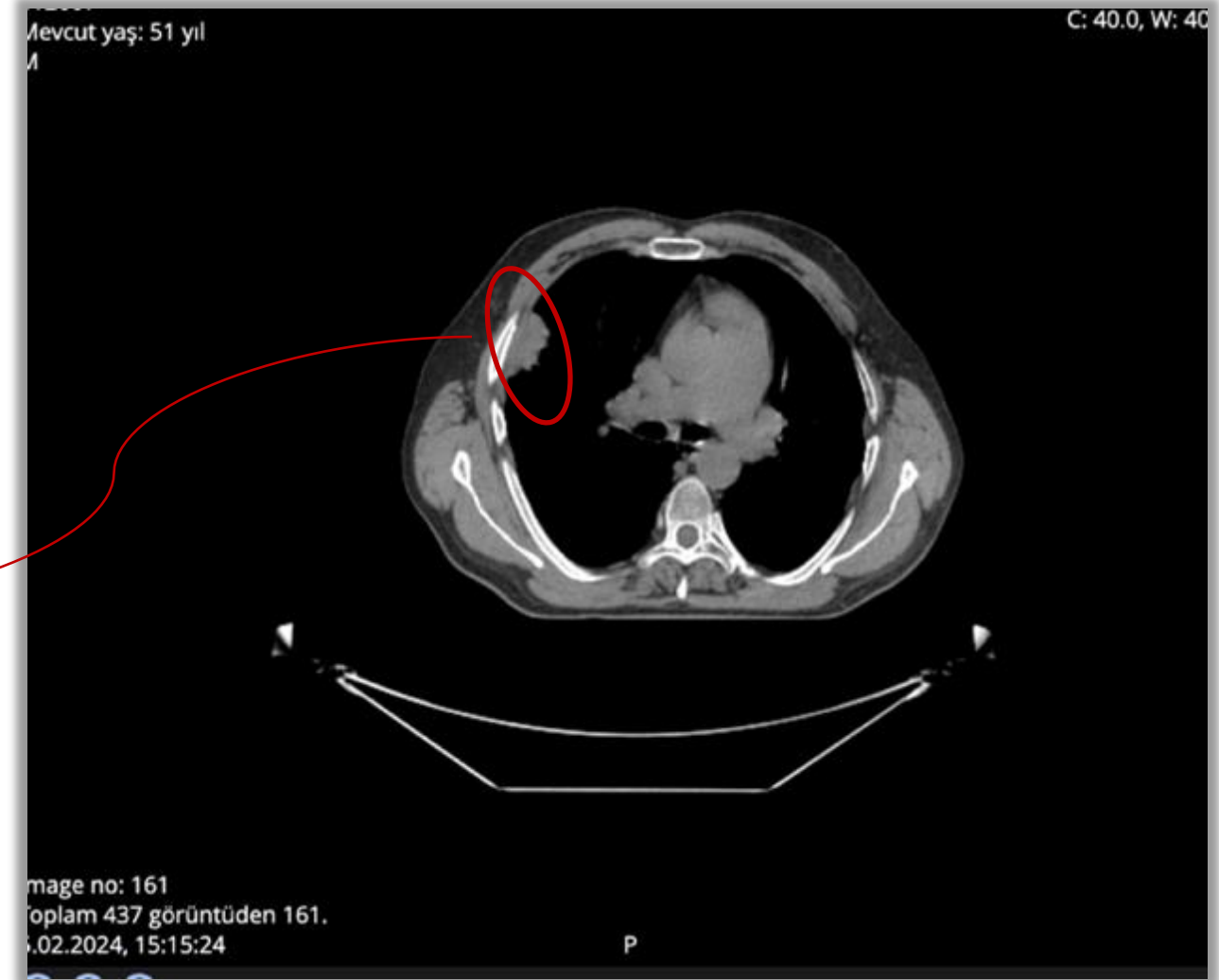
Amok-klav 2x1 gr po
Klaritromisin 500 mg 1x1 po



Radyoloji

1 hafta sonra

Sağ akciğer ön üst lobda
3.7×2.5 cm boyutunda plevra
tabanlı bir kitle lezyonu



Ön tanı

- Ateş
- Öksürük
- Balgam
- Göğüs ağrısı
- Astım tanılı
- Sigara öyküsü yok

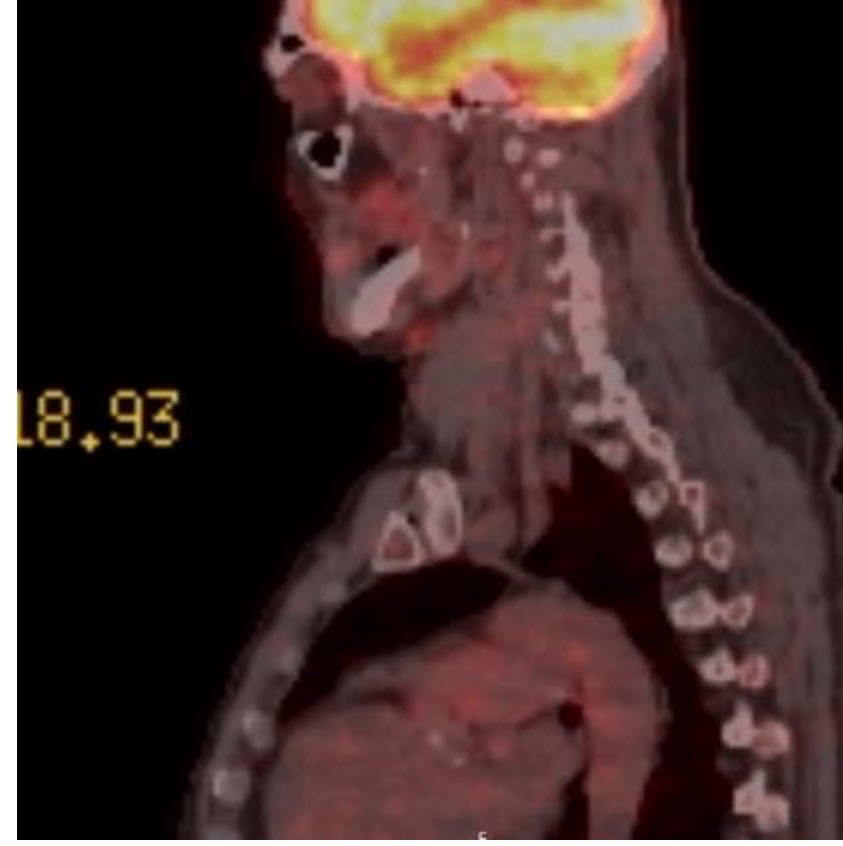
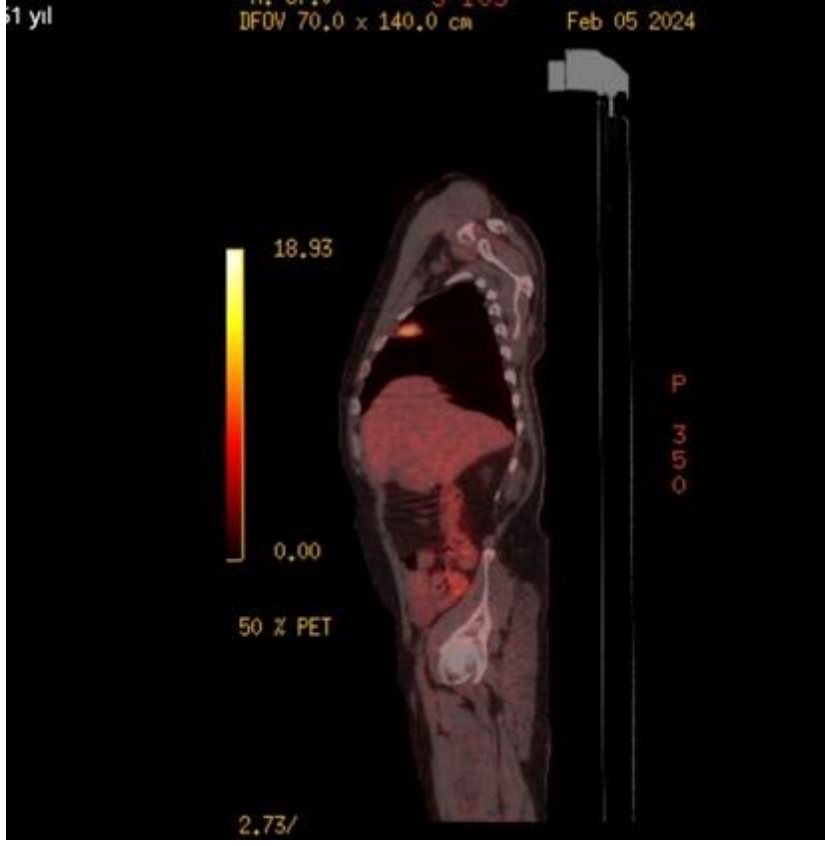
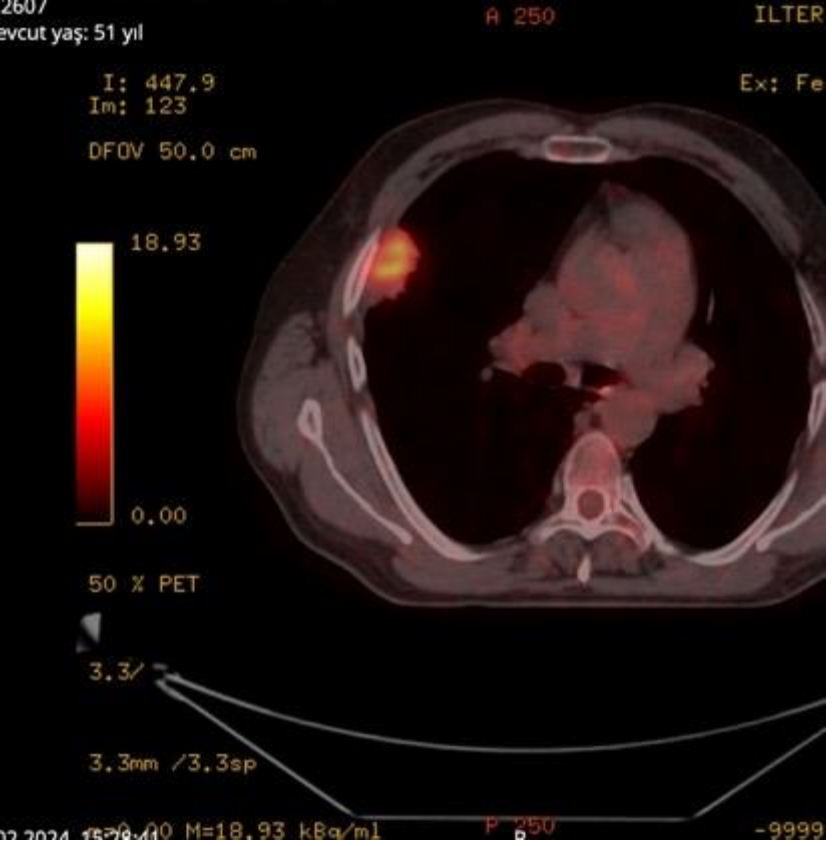


Göğüs cerrahisi

Malignite



PET CT
Cerrahi eksizyon



PET CT

Plevra ve fissüre dayanan sağ akciğerin ön üst lobunda bulunan **kitle lezyonunda artan 18F-FDG tutulumu**, metabolik boyutta 37 ×25 ×21 mm ve çevresi çevresinde buzlu cam opasiteleri (SUVmax: 7)

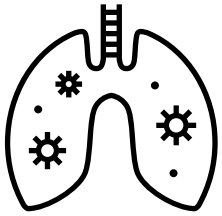
Morfolojik sınırlar ayırt edilemez olsa da metabolik boyutta 26×18 mm ölçen, **mediasteninin sağ hiler bölgesindeki bir lenf düğümünde artmış 18F-FDG tutulumu** (SUVmax: 2.7)

Sol submandibuler bölgede **milimetrik bir lenf düğümünde artan 18F-FDG tutulumu** (SUVmax:4.7)

Ayırıcı tanı



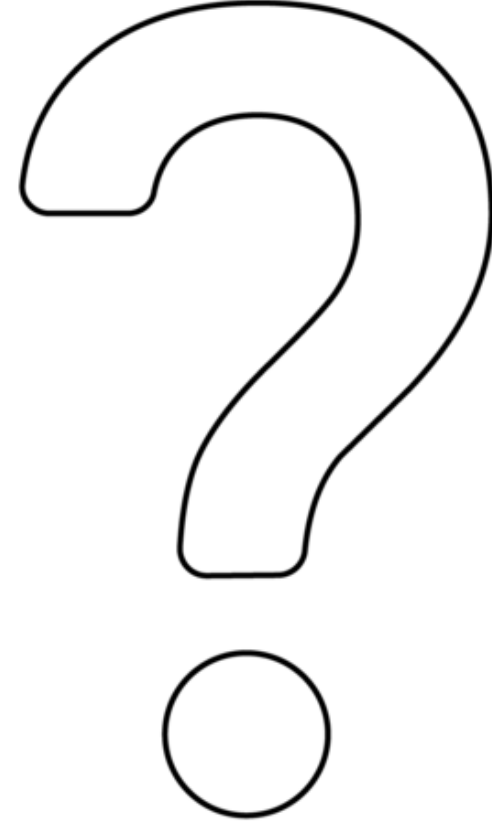
- 51 yaş erkek
- Astım tanılı
- Çiftçi



- Ateş, öksürük, balgam
- Göğüs Ağrısı

- Kilo kaybı yok
- Gece terlemesi yok

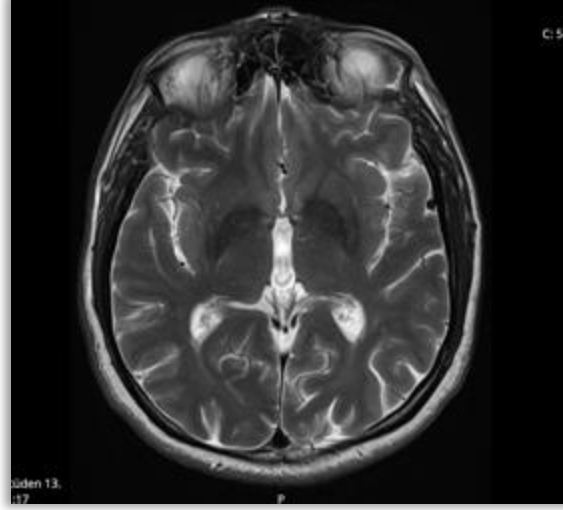
Sağ akciğer ön üst lobda
plevra tabanlı kitle lezyonu



Takip

Metastaz ?

Kontrastlı Beyin MR



Primer akciğer malignitesi

Kama rezeksiyon



Takip

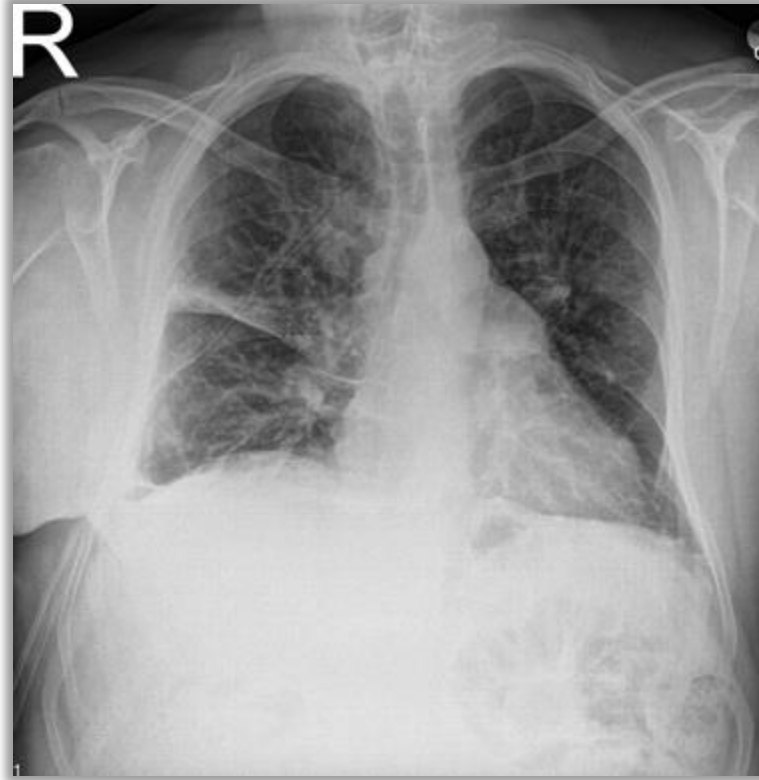
Postoperatif 3. gün

Balgam



Gram negatif diplokok
Gram negatif basil

PMNL



Levofloksasin 750 mg
24 saatte bir iv

Balgam kültürü
Kan kültürü

Toraks BT

- Mediastende ve her iki hiler bölgede büyüğünün kısa aksı **12 mm olan lenf nodları**
- Sağ hemitoraksta en kalın yerinde **2 cm ye ulaşan plevral efüzyon**
- Sağ akciğerde yer yer alt lobta daha belirgin olmak üzere lineer fibroatelektaziler
- Sağ akciğer üst lobta anterior segmentte minör fissür komşuluğunda operasyon materyallerinin eşlik ettiği lineer atelektazik alan (operasyona sekonder)
- Sağ hemitoraksta ciltaltı 2-7. kot anteriorda komşu kas gruplarında ve ciltaltı yağlı planlarda hava partikülleri ve kirlenmeler dikkati çekmektedir (post- op değişiklik)
- Sağ akciğer orta lob lateralde **subplevral** yerleşimli fissüre uzanan **konsolidasyon** alanı dikkati çekmektedir (loküle effüzyon?)



Takip

- Yatış 13. gün

- Kan kültürü
- Balgam kültürü



Üreme yok



Levofloksasin 750 mg iv
10. gün



Taburcu

14 gün

Takip

Poliklinik kontrolü

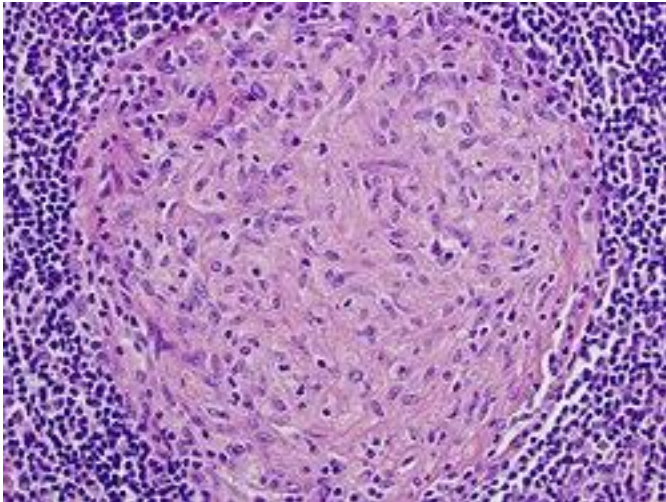
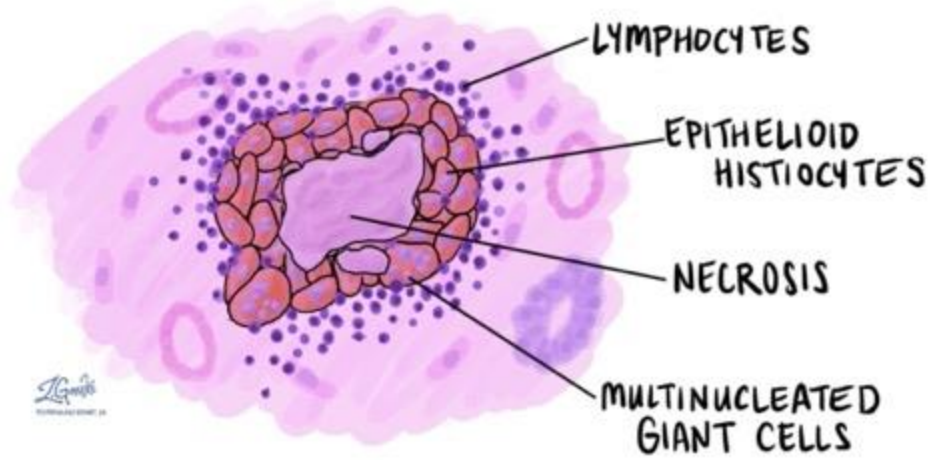
- Akciğer biyopsisi



Fokal süpuratif inflamasyon alanları ve
fokal kalsifikasyon odakları içeren
nekrotizan kronik granülomatöz
inflamasyon



Granülotamöz inflamasyon



- İnfektif
- Toksik
- Otoimmün
- Allerjik
- Neoplastik
- İdiopatik

- Tüberküloz
- Brusella
- Salmonella
- Kedi tırmığı hastalığı
- Sfiliz
- Tularemi
- Q ateşi
- Lepra

- Histoplazmoz
- Blastomikoz
- Koksidiomikoz
- Şistosomiazis

Ayırıcı Tanı

Doku biyopsi
kültürü



Mikobakteri: üreme yok
ARB: negatif

PPD: negatif

Rose Bengal: negatif

VDRL/TPHA: negatif

Tüberküloz öyküsü yok
Kedi tırmalama öyküsü yok
Şüpheli cinsel temas yok

Anti HIV: Negatif

Amok-klav (7 gün)
Klartiromisin (7 gün)
Levofloksasin (14 gün)



En başa dönelim



- Meslek: Çiftçi
- Tarım ve hayvancılık ✓
- Yaşadığı yer: Sivas- Zara
- İçme suyu: Musluk suyu ve doğal kaynak suyu
- Fare teması
- Evinin etrafında ölü fareler



Tularemi mikroaglutinasyon testi
(MAT) 1/1280 titre

The great tularemia outbreak in Sivas: Evaluation of 205 cases

Yasemin Çakır Kıymaz^{a,*}, Serkan Bolat^b, Bilge Katırcı^c, Özlem Aldemir^c, Işık Altınkaya^c, Merdan Mustafa Özcan^c, Serhat Murat Hopoğlu^c, Murtaza Öz^c, Ertuğrul Keskin^a, Caner Öksüz^d, Mürşit Hasbek^e, Ahmet Aksoy^f, Onur Mahmutoglu^g, Duygu Çelik Seyitoğlu^h, Seyit Ali Büyüktuna^a, Nazif Elaldi^a

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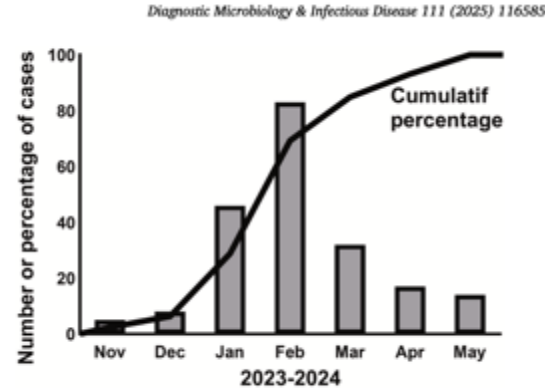


Fig. 1. Distribution of cases according to the time symptoms started.



Fig. 2. Distribution of tularemia cases diagnosed in Sivas province between November 2023 and May 2024.

Kesin tanı

Patoloji preparatından tularemi PCR



Referans laboratuvar bunun ancak taze dokudan mümkün olduğu ve yapılamayacağı bildirildi.
Bu nedenle ileri inceleme yapılamadı.

Başka tularemi odağı ?

Submandibular LAP



Pulmoner tularemi

Profilaksi

- **Laboratuvar personelinin kazara maruz kalması**
 - Antibiyotik tedavisine 24 saat içinde başlanmalı ve Siprofloksasin 500 mg 12 saatte bir veya doksisisiklin 100 mg 12 saatte bir, 14 gün
- **Maruziyetin büyük ihtimalle gerçekleşmediği durumlar (laboratuvarda)**
 - 14 gün boyunca vücut sıcaklığının günlük olarak ölçülmesi ve semptomlar ortaya çıkarsa tedaviye hazır olma dahil olmak üzere artan bir dikkat
- ***F. tularensis*'in aerosol yoluyla tesadüfi yayılması**
 - Potansiyel olarak maruz kalan kişilere, maruziyetten sonraki 14 gün içinde ateş gelişimine karşı dikkatli olmaları ve gerekirse yukarıdaki programa göre tedaviye başlamaları talimatı verilmeli



Profilaksi ?

- Hastanın pulmoner tularemi olduđu postoperatif 45. günde öğrenildi ve operasyona katılan sađlık çalışanları tularemi açısından sorgulandı.
- Operasyon sırasında tüm personel maskeli olduđu ve hiçbir sađlık çalışanında ameliyat sonrası herhangi bir semptom olmadığı öğrenildi.
- Mikrobiyoloji laboratuvar personellerinde de tularemi ile ilgili herhangi bir şikayet olmadığı öğrenildi.
- Bu nedenle sađlık çalışanlarına herhangi bir profilaksi önerilmedi.



Pulmoner tularemi



Tularemi



- **Etken:** Gram negatif, aerobik, hareketsiz, hücre içi çoğalan bir kokobasil olan *Francisella tularensis*
- **Bulaş:** Enfekte hayvanlarla, kontamine su veya toprakla doğrudan temas, kirli su, keneler ısırığı, aerolizasyon, laboratuvar
- **Klinik:** Ülseroglandüler, orofaringeal, glandüler, oküloglandüler, tifoid (sistemik), pnömonik



Pulmoner Tularemi

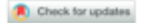
- **Bulaş:** İnhalasyon, hematojen yayılım
- **Klinik:** Ateş, öksürük, dispne, göğüs ağrısı



INFECTIOUS DISEASES,
2017; VOL. 49,
NO. 10, 758–764

<https://doi.org/10.1080/23744235.2017.1341054>

ORIGINAL ARTICLE



Pneumonic tularaemia: experience of 58 cases from 2000 to 2012 in Northern Finland

Sara A. Väyrynen^a, Elina Saarela^a, Janne Henry^b, Sini Lahti^c, Terttu Harju^d and Heikki Kauma^a

^aDepartment of Internal Medicine, Division of Infectious Diseases, Oulu University Hospital and University of Oulu, Oulu, Finland;

^bLammi Health Centre, Hämeenlinna, Finland; ^cNordlab Oulu, Oulu University Hospital, Oulu, Finland; ^dRespiratory Research Unit of Internal Medicine, Medical Research Centre Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland

Ticks and Tick-borne Diseases 13 (2022) 101941



Contents lists available at ScienceDirect

Ticks and Tick-borne Diseases

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Francisella tularensis infection: variable clinical aspects with persistent pulmonary nodules presentation, a case series of human tularemia in Franche-Comté, France

Souheil Zayet^{a,*}, Laure Frechet^a, Yousri Ben Abdallah^b, Pauline Garnier^c, Charles-Eric Lavoignet^d, Zied Guermazi^d, Xavier Naudot^e, Timothée Klopfenstein^a, Vincent Gendrin^a

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^b Pneumology Department, Nord Franche-Comté Hospital, France

^c Microbiology Department, Nord Franche-Comté Hospital, France

^d Emergency Department, Nord Franche-Comté Hospital, France

^e Infectious Disease Department, Eurofins Biomnis, Lyon, France

M. Maurin, M. Gyuranecz Tularaemia: clinical aspects in Europe. Lancet Infect. Dis., 16; (2016): 113-124

G. Hestvik, et al. The status of tularemia in Europe in a one-health context: a review Epidemiol. Infect., 143 (2015);:2137-2160

Sara A. Väyrynen et al. Pneumonic tularaemia: experience of 58 cases from 2000 to 2012 in Northern Finland, Infectious Diseases. 2017;49(10):758-764

Pulmoner Tularemi

Original Article

Tularemia, a Reemerging Disease in Northwest Turkey: Epidemiological Investigation and Evaluation of Treatment Responses

Güven Çelebi*, Fatma Baruoğlu, Ferruh Aydoğdu¹, Fikret Çinar², Aynur Karadenizli³, Mehmet Birol Uğur² and Suna Gedikoğlu⁴

Department of Infectious Disease and Clinical Microbiology, ¹Department of Public Health and ²Department of Otorhinolaryngology Head and Neck Surgery, Faculty of Medicine, Zonguldak Karaelmas University, Zonguldak; ³Department of Microbiology and Clinical Microbiology, Faculty of Medicine, Kocaeli University, Kocaeli; and ⁴Department of Infectious Disease and Clinical Microbiology, Faculty of Medicine, Uludağ University, Bursa, Turkey

Multicenter Study > Clin Microbiol Infect. 2014 Dec;20(12):O1042-51.

doi: 10.1111/1469-0691.12741. Epub 2014 Aug 13.

Evaluation of tularaemia courses: a multicentre study from Turkey

H Erdem¹, D Ozturk-Engin, M Yesilyurt, O Karabay, N Elaldi, G Celebi, N Korkmaz, T Guven, S Sumer, N Tulek, O Ural, G Yilmaz, S Erdinc, S Nayman-Alpat, E Sehmen, C Kader, N Sari, A Engin, G Cicek-Senturk, G Ertem-Tuncer, G Gulen, F Duygu, A Ogutlu, E Ayaslioglu, A Karadenizli, M Meric, M Ulug, C Ataman-Hatipoglu, F Sirmatel, S Cesur, S Comoglu, A Kadanali, A Karakas, A Asan, I Gonen, Y Kurtoglu-Gul, N Altin, S Ozkanli, F Yilmaz-Karadag, M Cabalak, S Gencer, A Umut Pekok, D Yildirim, D Seyman, B Teker, H Yilmaz, K Yasar, I Inanc Balkan, H Turan, M Uguz, S Kilic, Y Akkoyunlu, S Kaya, A Erdem, A Inan, Y Cag, S Bolukcu, A Ulu-Kilic, N Ozgunes,

European Journal of Epidemiology **16**: 271–276, 2000.
© 2000 Kluwer Academic Publishers. Printed in the Netherlands.

Tularemia in Bursa, Turkey: 205 cases in ten years

S. Helvacı, S. Gedikoğlu, H. Akalın & H.B. Oral

Department of Microbiology and Infectious Diseases, Uludağ University, School of Medicine, Bursa, Turkey

Accepted in revised form 23 November 1999

Pulmoner Tularemi

Short Communication

Evaluation of Clinical and Laboratory Findings of Pediatric and Adult Patients with Oropharyngeal Tularemia in Turkey: a Combination of Surgical Drainage and Antibiotic Therapy Increases Treatment Success

Mustafa Gokhan Gozel^{1*}, Aynur Engin¹, Emine Elif Altuntas², İsmail Salk³, Ali Kaya⁴, Cem Celik⁵, Ilyas Dokmetas¹, Mehmet Bakir¹, and Nazif Elaldi¹

¹Department of Infectious Diseases and Clinical Microbiology,

²Department of Otorhinolaryngology

³Department of Radiology,

⁴Department of Pediatrics, and

⁵Department of Medical Microbiology, Cumhuriyet University F

Outbreak of tularemia: a case–control study and environmental investigation in Turkey

Hakan Leblebicioglu ^{a,*}, Saban Esen ^a, Derya Turan ^a, Yucel Tanyeri ^b, Aynur Karadenizli ^c, Fatma Ziyagil ^d, Guher Goral ^e

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AN EVALUATION OF PATIENTS WITH TULAREMIA IN DÜZCE PROVINCE IN THE WESTERN BLACK SEA REGION OF TURKEY

Nevin Ince^{1,*}, Ozlem Cetinkaya², Bekir Tunca¹, Yasemin Cakir¹

¹Department of Infectious Diseases and Clinical Microbiology, Düzce University Faculty of Medicine, Düzce, Turkey

²Bursa Health Application and Research Center, Department of Infectious Diseases and Clinical Microbiology, Bursa, Turkey

³Department of Infectious Diseases and Clinical Microbiology, Düzce University Faculty of Medicine, Düzce, Turkey

Leblebicioglu H, et al. Outbreak of tularemia: a case-control study and environmental investigation in Turkey. *Int J Infect Dis.* 2008;12(3):265-9.

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Ince N, et al. An evaluation of patients with tularemia in Düzce province in the western black sea region in Turkey. *Fresenius Environmental Bulletin.* 2020;29(11). 10035-39

Literatür

Pneumonic tularaemia: experience of 58 cases from 2000 to 2012 in Northern Finland

Sara A. Väyrynen^a, Elina Saarela^a, Janne Henry^b, Sini Lahti^c, Terttu Harju^d and Heikki Kauma^a

^aDepartment of Internal Medicine, Division of Infectious Diseases, Oulu University Hospital and University of Oulu, Oulu, Finland;

^bLammi Health Centre, Hämeenlinna, Finland; ^cNordlab Oulu, Oulu University Hospital, Oulu, Finland; ^dRespiratory Research Unit

of Internal Medicine, Medical Research Centre Oulu, Oulu University Hospital and University of Oulu, Oulu, Finland

Table 2. Presenting symptoms in the pneumonic tularaemia cases.

Symptom	n (%)
Fever	54 (93)
Respiratory symptoms	31 (53)
Headache	20 (34)
Pain in the muscles/joints	14 (24)
Chest pain	6 (10)
Nausea	5 (9)
Pain in the stomach/diarrhoea	4 (7)
Other ^a	5 (9)

a Including visual impairments, reduced urine secretion, vertigo and dizziness.

- 43 olguda (%91) hiler ve/veya mediastinal LAP
- 33 olguda (%70) unilateral ve 10 olguda (%21) bilateral pulmoner infiltrasyonlar
- 16 olguda (%34) plevral efüzyon
- Dört olguda (%7) PA AC grafisi normal

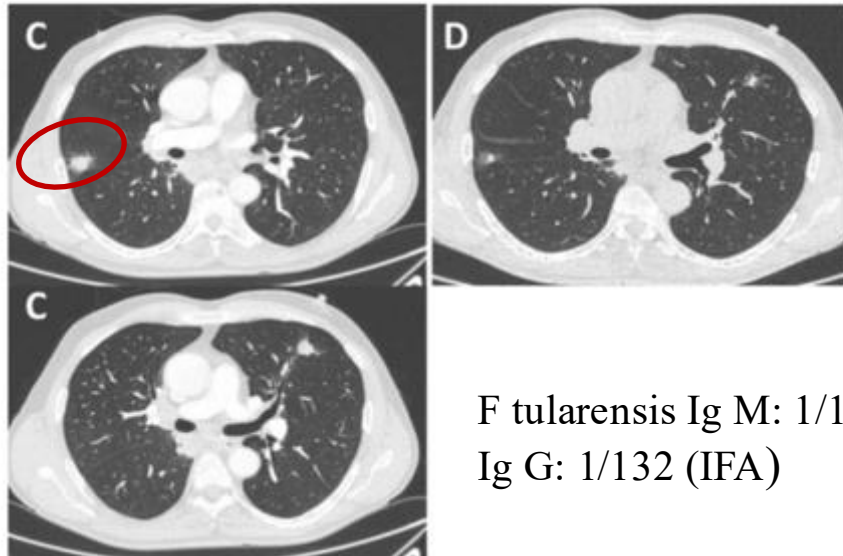
Table 3 of 4

Table 3. The first suspected diagnosis in the emergency unit of Oulu University Hospital.

Diagnosis	n (%)
Pneumonia	21 (36)
Other infection	10 (17) ^a
Unspecified infection	24 (41)
Hypersedimentation	1 (2)
Malignancy	2 (3)

a Including tularaemia and epidemic nephropathy in three (5%) cases and sepsis, gastroenteritis, virusmeningitis, and erythema nodosum in one (2%) case.

Literatür



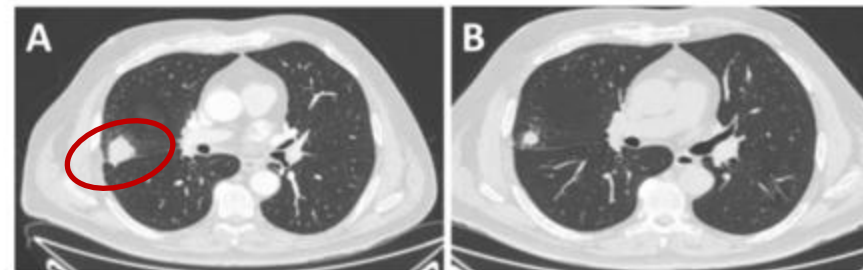
F tularensis Ig M: 1/160
Ig G: 1/132 (IFA)

Tedavi-

Francisella tularensis infection: variable clinical aspects with persistent pulmonary nodules presentation, a case series of human tularemia in Franche-Comté, France

Souheil Zayet^{a,*}, Laure Frechet^a, Yousri Ben Abdallah^b, Pauline Garnier^c, Charles-Eric Lavoignet^d, Zied Guermazi^d, Xavier Naudot^e, Timothée Klopfenstein^a, Vincent Gendrin^a

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^d Emergency Department, Nord Franche-Comté Hospital, France
^e Infectious Disease Department, Eurofins Biomnis, Lyon, France



F tularensis Ig M: 1/160, Ig G: 1/132 (IFA)

Tedavi: -

Literatür

Retrospektif

2016-2020

27 hasta

16 hasta- kesin tularemi

11 hasta PCR

2 hasta serokonversiyon

3 hasta- titre artışı

11 hasta- olası tularemi

Tek yüksek antikor titresi



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Original article

Hypermetabolic pulmonary lesions on FDG-PET/CT: Tularemia or neoplasia?*

Pauline Martinet^a, Lydie Khatchatourian^a, Nadia Saidani^a, Marie-Sarah Fangous^b,
Dorothee Goulon^c, Ludovic Lesecq^d, Florence Le Gall^b, Brice Guerpillon^a, Romain Corre^e,
Nicolas Bizien^e, Jean-Philippe Talarmin^{a,*}

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%59 (n=16)
histopatolojik
değerlendirme

%29 (n=8)
nonspesifik
bulgular

%11 (n=3)
nekrozlu
granülomlar

Table 2

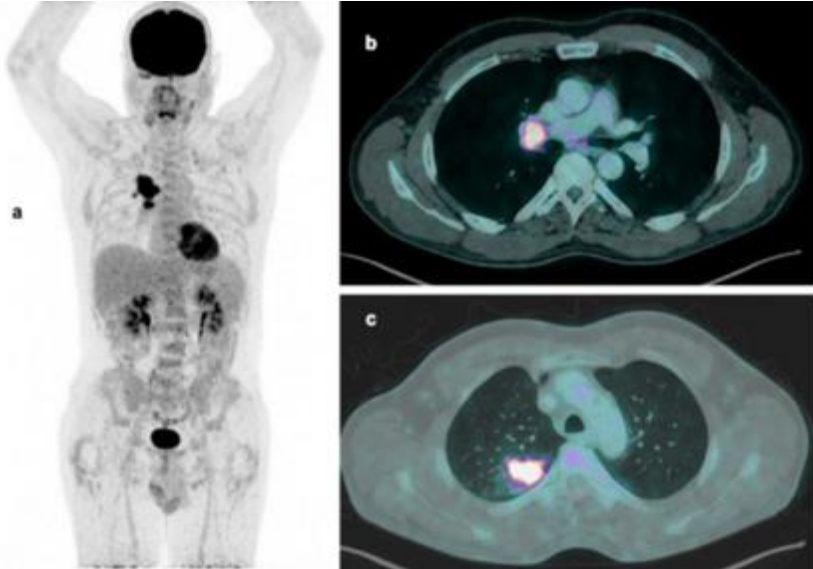
Radiological presentation in 27 patients.

Enlarged lymph nodes	27/27
Isolated	5/27
Associated with pulmonary lesions	20/27
Associated with pleural effusion	2/27
Pulmonary lesions	20/27
Nodules	18/27
Single	10/18
Multiple	8/18
Bilateral lobar involvement	3/8
Mean number	1.6 [1; 4]
Pneumonia aspect	3/27
Pulmonary nodule and pneumonia aspect	1/27
Pleural effusion	6/27
Isolated	2/27
Associated with pulmonary lesions	4/27
Median SUVmax	12.9 [6.5; 24.9]
PET-CT suggestive of malignancy	15

Tedavi
19 hasta (%70)

Doksisiklin (%95)
Siprofloksasin (%5)

14 veya 21 gün



Pulmoner tularemi

European Journal of Epidemiology 16: 271–276, 2000.
© 2000 Kluwer Academic Publishers. Printed in the Netherlands.

Tularemia in Bursa, Turkey: 205 cases in ten years

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Accepted in revised form 23 November 1999

Francisella tularensis bacteremia: report of two cases and review of the literature

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Table 4. Clinical forms of 205 patients with tularemia

Clinical form	Number of cases (%)
Oropharyngeal	170 (83)
Oculoglandular	16 (8)
Ulceroglandular	2 (1)
Glandular	2 (1)
Oropharyngeal & Pneumonia	1 (0.5)
Subclinical	9 (4)
Others	5 (2)

(2 cases with only fever; 2 cases with fever and erythema nodosum-like skin lesion; one case with arthralgia)

Bir Tularemik Pnömoni Olgusu

A Case of Tularemic Pneumonia

Yunus Gürbüz¹, Zehra Demirbaş-Gülmez², Emin Ediz Tütüncü¹, İrfan Şencan¹

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Karagöz S, et al. Francisella tularensis bacteremia: report of two cases and review of the literature. New Microbiol. 2013;36(3):315-23.

Gürbüz, Y,et al. Bir tularemik pnömoni olgusu. Klinik Derg. 2019;32(2):210-2.

Literatür

Bir Tularemik Pnömoni Olgusu

A Case of Tularemic Pneumonia

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72 yaş erkek
İşçi emeklisi
Çankırı ilinin bir köyü

Ateş, halsizlik, sol plöretik
ağrı

Konsolidasyon



Resim 1. Hastanın posteroanterior grafisinde sol akciğer alt lobda pnömonik konsolidasyon.

Orofarinkste beyaz
plaklar

Tularemi MAT: 1/1280
Balgam PCR: pozitif

Streptomisin 2x1 gr im (10 gün)

Literatür

Olgu 1

53 yaş erkek
Kayseri
Kırsal yaşam
Şizofreni

Ateş, öksürük,
miyalji, göğüs ağrısı

Sağ bazalde infiltrasyon

Kan kültürü: *F. tularensis*

Gentamisin
Siprofloksasin

Francisella tularensis bacteremia: report of two cases and review of the literature

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Olgu 2

80 yaş kadın
DM, HT

Ateş, öksürük, nefes
darlığı ve göğüs ağrısı

Bilatera plevral efüzyon
Sol AC alt lobda
konsolidasyon

Tularemi MAT
11.gün: 1/80
18. gün: 1/1280

Kan kültürü: *F. tularensis*

Siprofloksasin

Sonuç

- Pulmoner tularemi nadir bir tularemi formu
- En sık semptomlar; ateş, öksürük, göğüs ağrısı
- Radyoloji: Hiler LAP, nodül, plevral efüzyon
- Tanı: Seroloji (MAT, ELISA, IFA), moleküler (PCR)
- Tedavi: ?
 - Streptomisin, Kinolonlar

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