Thoracic actinomycosis

DR. VIPUL V SHAH

MD

CONSULTANT : INFECTIOUS DISEASES

HEALTHCARE INFECTIOUS DISEASES CLINIC

Case history :

- 28 years old male from Rajkot
- Left side pleuritic chest pain radiating to back on and off since one month and more since 3 days
- Severe perspiration for 2 hours
- Admitted at Wockhardt hospital on 24-06-16

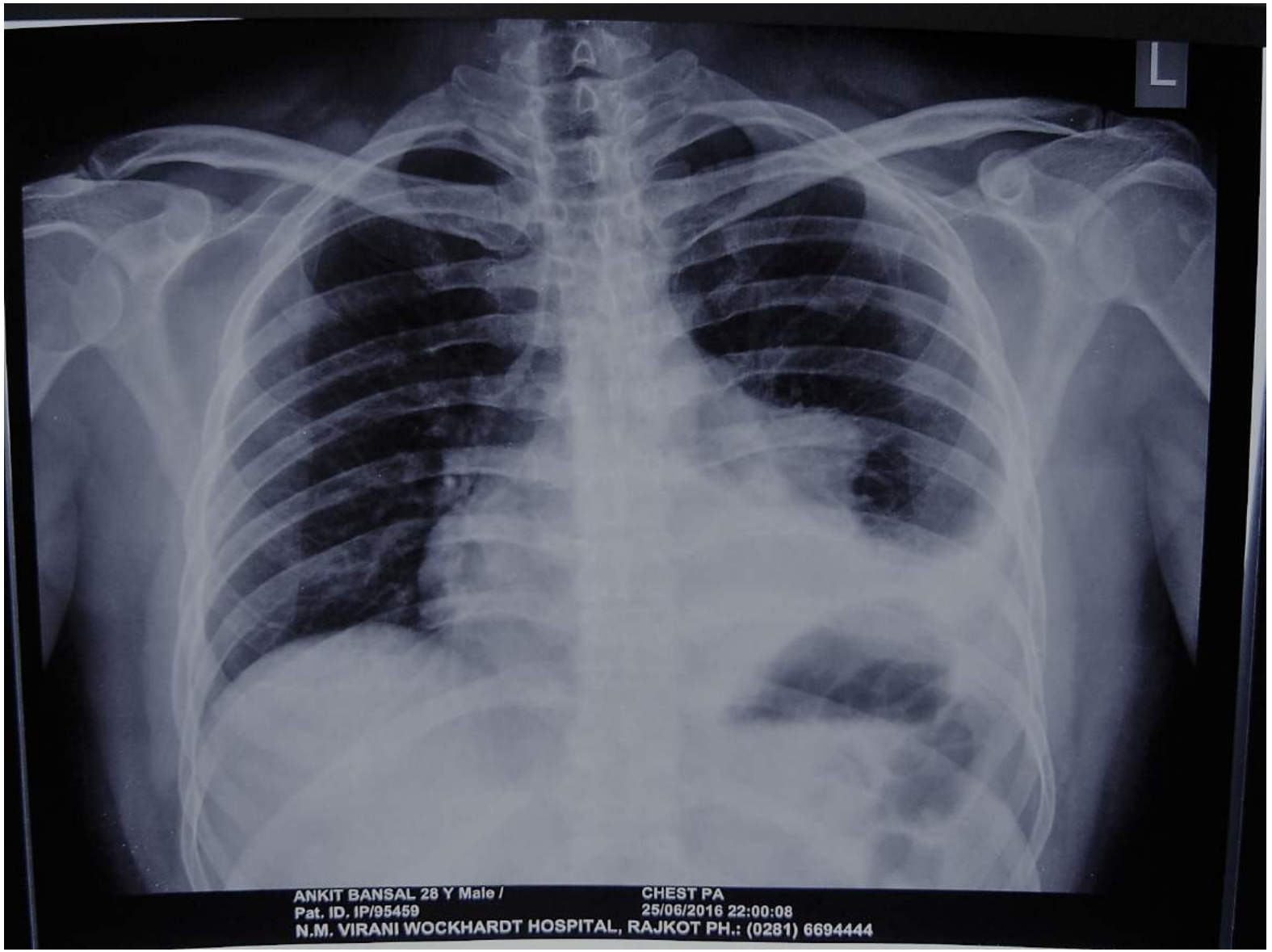
On examination as per record

- Temp: 98.5* F; P:90/min; BP:154/112 mm of HG; RR:20/min
- SPO2: 98% at Room air
- Systemic examination : normal

Lab investigations 24-06-2016 (At Wockhardt hospital)

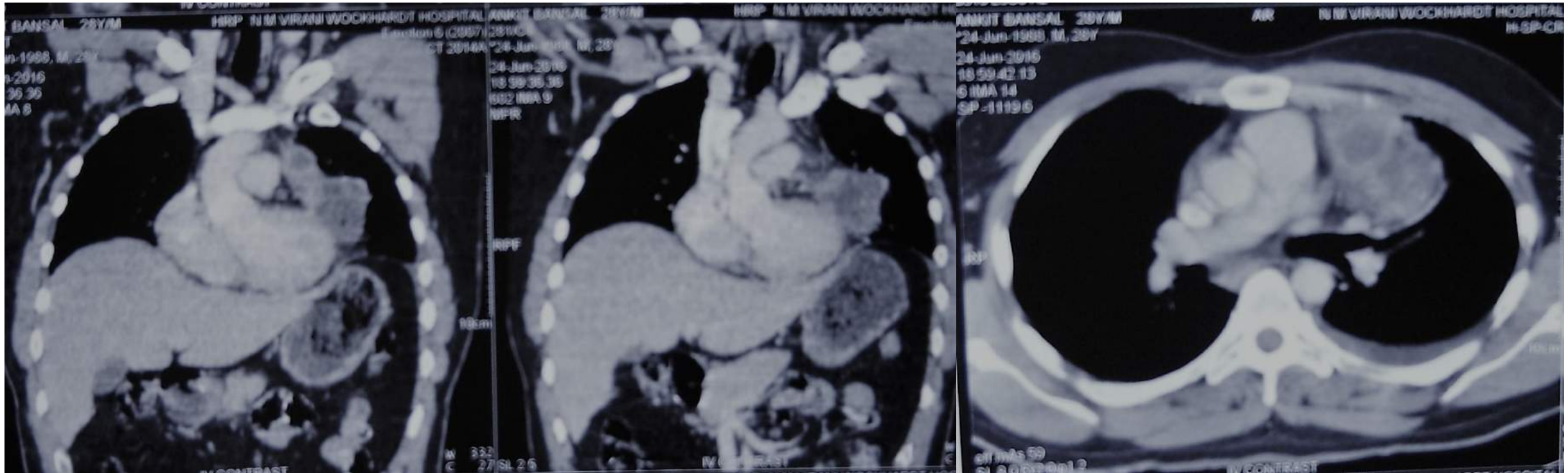
- Hb: 13.7 Gm%; TC: 12500/cmm; DC: P54/L40/E2/M4/B0; PC: 390000
- ESR : 28 mm/hr
- Serology for HBV and HIV negative
- RBS : 90; Na: 135; Creatinine : 0.66; Billirubin : 0.30
- Total protein : 6.96; Albumin : 4.46; Globulin: 2.5; Ratio: 1.78
- CRP: 15 then increased to 95
- HbA1C: 5.7
- SGPT: 17; SGOT:16
- PCT : 0.044 ng/ml (<0.1 : No sepsis)

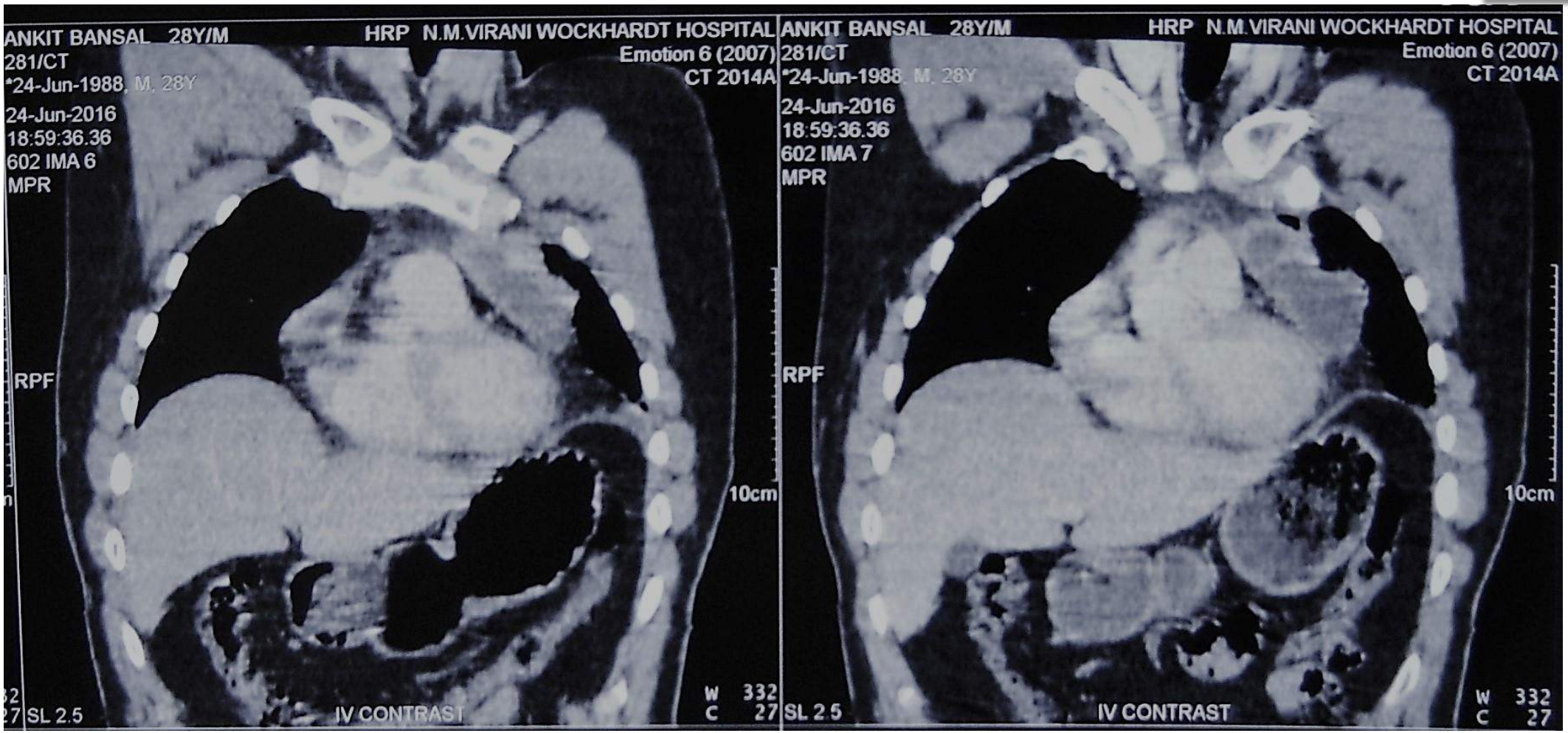
X-Ray Chest P(A)



CT Chest with contrast

- There is presence of necrotic lobulated lesion with peripheral enhancement and nodular component seen in anterior mediastinum, measuring 5.9 *5.1*5.9 cm. there is associated with mild smooth adjacent pleural and pericardial thickening. Mild left pleural effusion




ANKIT BANSAL 28Y/M
281/CT
*24-Jun-1988, M, 28Y
24-Jun-2016
18:59:36.36
602 IMA 6
MPR
HRP N.M.VIRANI WOCKHARDT HOSPITAL
Emotion 6 (2007)
CT 2014A
RPF
10cm
SL 2.5
IV CONTRAST
W 332
C 27
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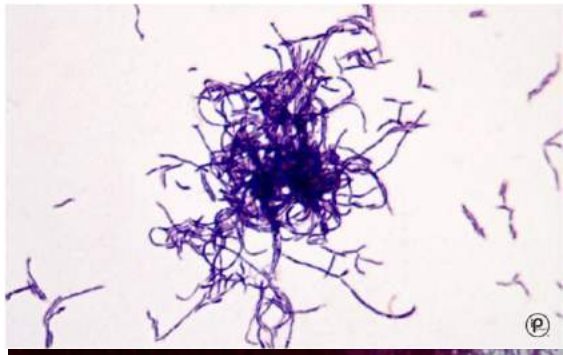
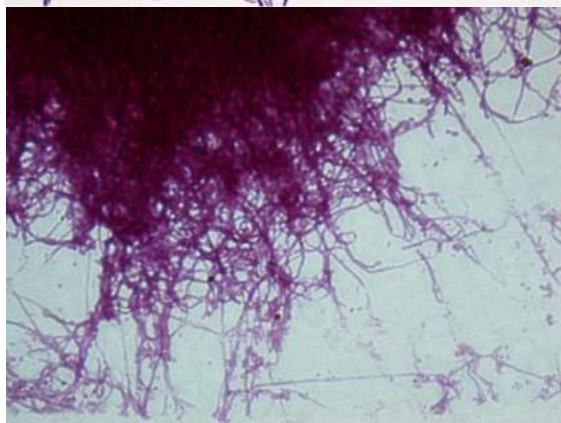
IV CONTRAST
W 332
C 27

CT Guided Fluid aspiration

- Smear : Plenty of pus cells seen. Moderate number of gram positive branching filaments which break up into coccoid and bacillary elements are seen (? s/o ***Actinomycetes family***)
- ZN stain : AFB not seen
- Weak ZN stain : Negative
- Gene Xpert : MTB not detected
- C/S : no organism isolated after 48 hours of incubation





Pictures are borrowed from lab

In hospital Rx from 24th to 27th June, 2016

- Antibiotics : Teicoplannin, Cefaperazone plus sulbactum, Clindamycin, moxifloxacin
- Supportive : paracetamol, diclofenac, clonazepam and B complex, pantoprazole, ondansetron
- On discharge : Cefpodoxime, Clindamycin, moxifloxacin and supportive medications
- Referred to us for further management

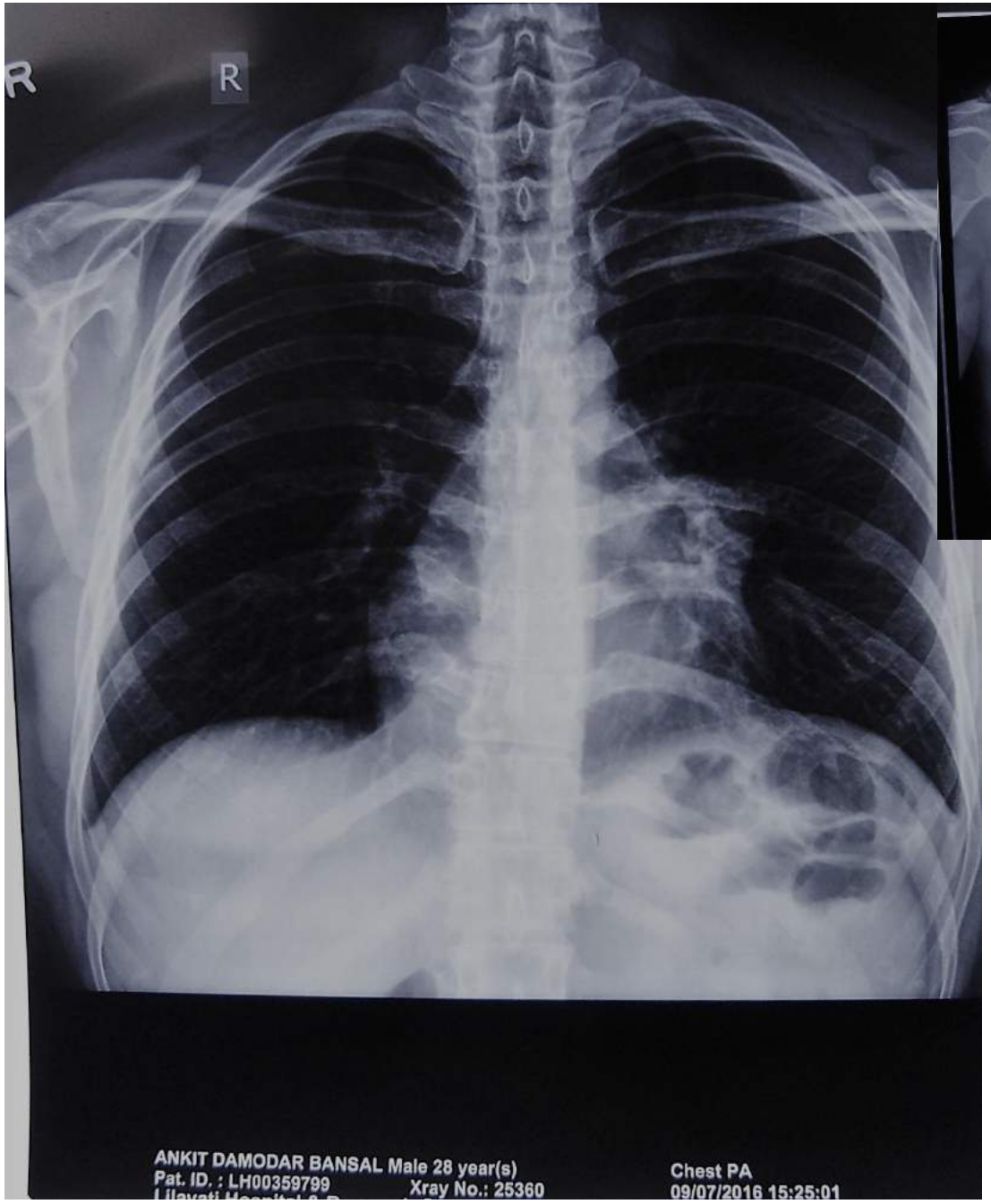
At our clinic on 28-06-2016

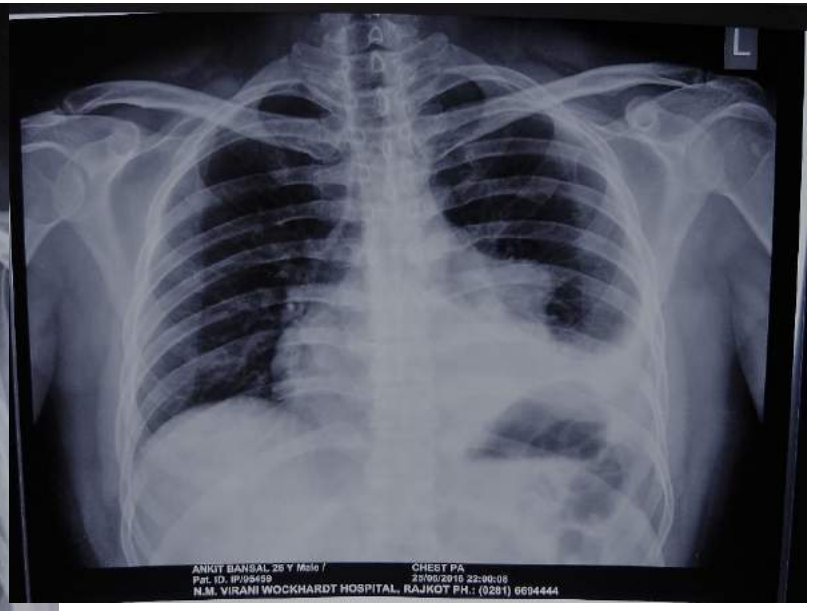
- CT guided aspiration of pus for anaerobic culture which turned around negative
- Injection crystalline penicillin 40 lac unit every 4 hourly but as it was not available
  - Amoxycillin 500 mg QDS plus Clindamycin 600 mg TDS
- Regular follow up with consult intensivist at Rajkot

Follow up with intensivist at Rajkot

- 09-07-2016; X ray improved
- CBS : normal
- CRP: normal (5)
- Continued with same treatment
- Repeat USG on 21-07-2016: 5.8 * 5.1 cm illdefined collection noted anterior to heart; no pleural effusion
- Follow up CT Thorax 10-08-2016: Compare to previous CT, there was reduction in size of lesion and resolution of pleural effusion
- On 09-09-2016 : clindamycin stopped and augmentin duo 1gm bd continued
- Follow up CT on 20-09-2016: as compare to previous CT, mild increased in size of lesion

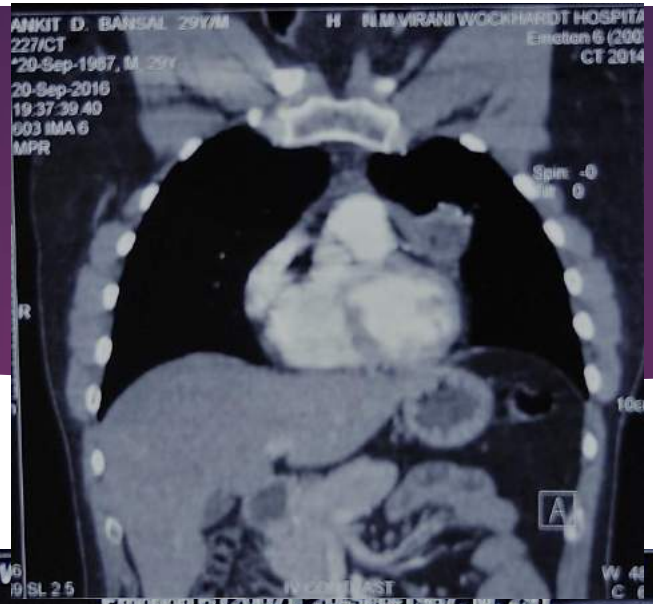
09-07-2016

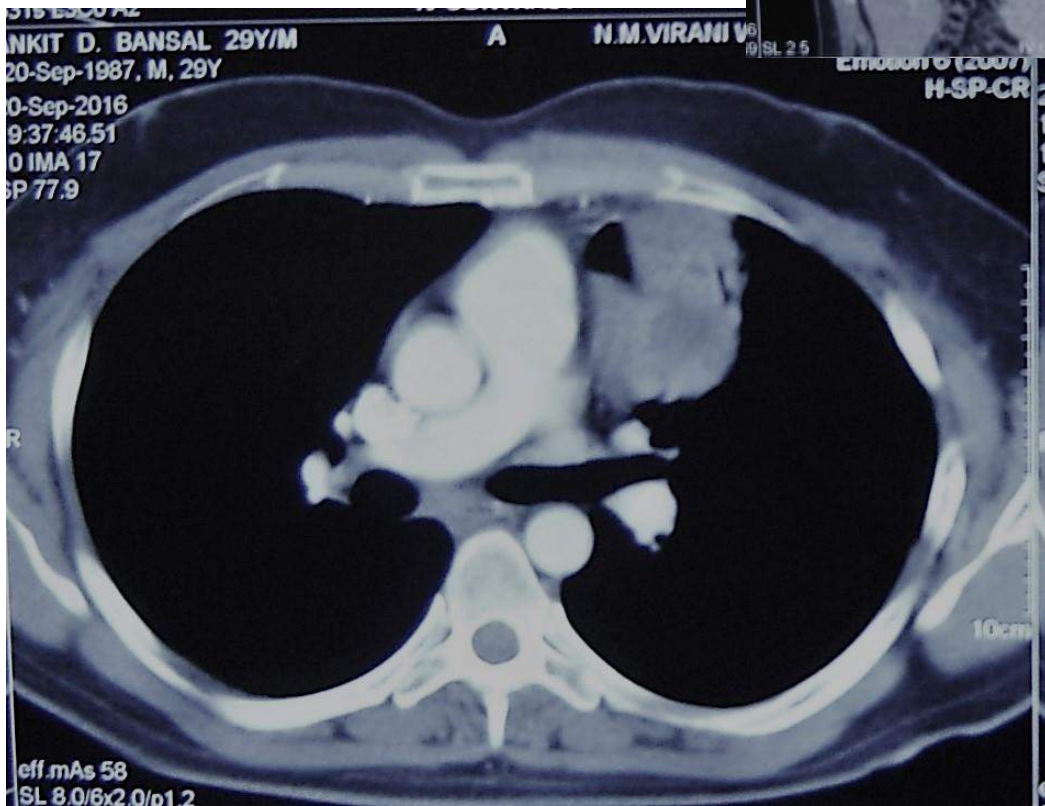


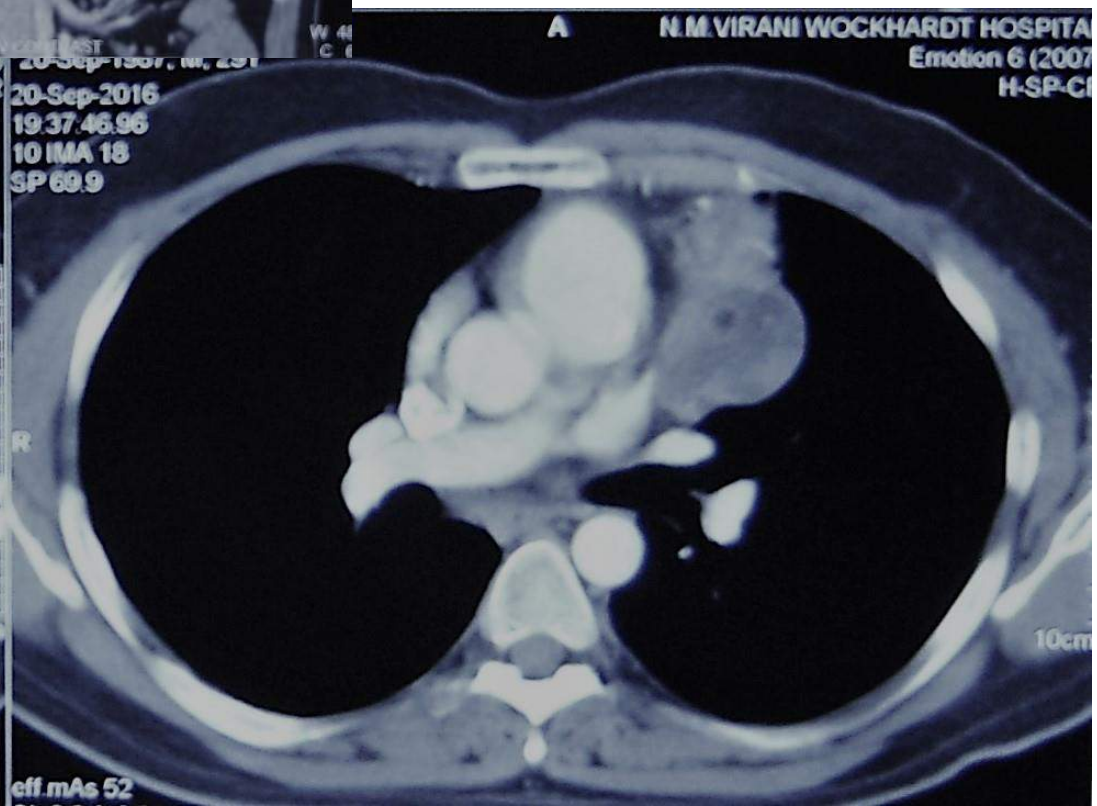


25-06-2016

20-09-2016 repeat CT



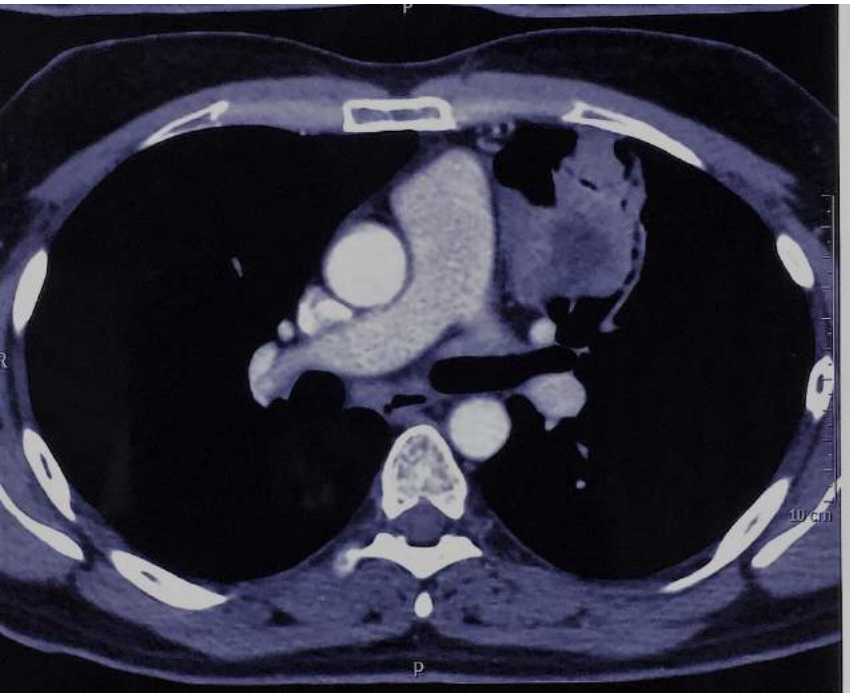


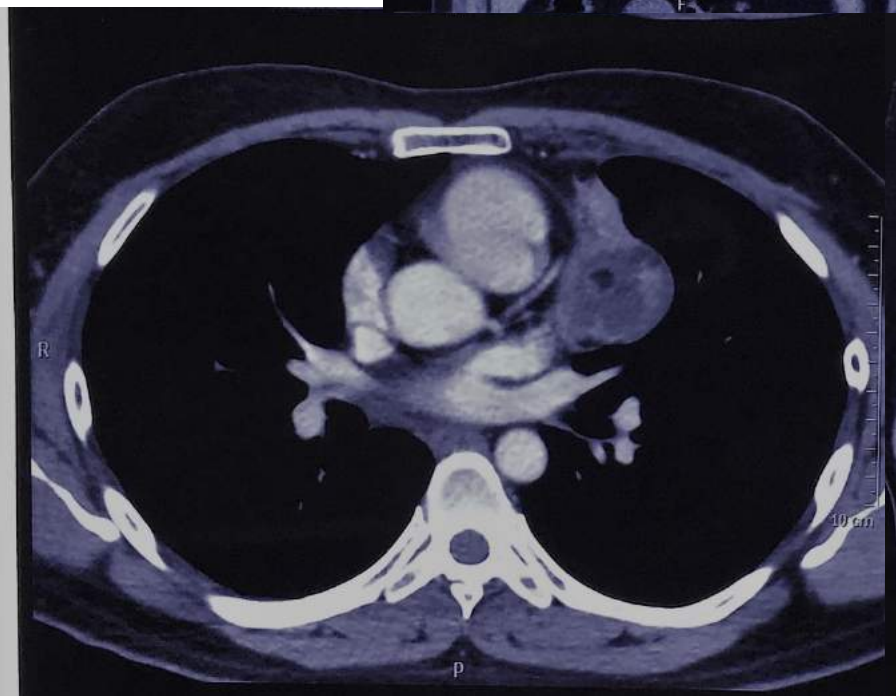


Follow up with us since 21-09-2016

- We put again on amoxicillin 500 mf QDS and clindamycin 600 mg TDS
- Dropped clindamycin after 3 month
- Repeat lab investigations are within normal limit
- Repeat CT Thorax on 22-11-2016
  - Residual inhomogenously enhancing lesion in anterior mediastinum on left side with areas of necrosis within
  - Partial subsegmental collapse of anterior segment of left upper lobe
  - No evidence of pleural effusion
  - As compare to previous CT dated 24-08-2016, there is significant regression in size of the lesion suggest improvement

22-11-2016





Last follow up on 22nd March, 2017

- Patient is asymptomatic
- On amoxicillin 500 mg QDS
- Planned lab and radiological work up after 2 months in next follow up

Thoracic actinomycosis

- Actinomycosis is an indolent, slowly progressive infection caused by anaerobic or microaerophilic bacteria, primarily of the genus *Actinomyces*
- Three "classic" clinical presentations that should prompt consideration of this unique infecions are
  - 1. The combination of chronicity, progression across tissue boundaries, and mass-like features
  - 2. The development of a siuns tract; which may spontaneously resolve and recur
  - 3. A refractory or relapsing infection after a short course of therapy

Clinical manifestation of thoracic disease

- Indolent progressive course
- Involvement of pulmonary parenchyma and/or pleural space
- Chest pain, fever and weight loss are common
- A cough when present usually productive
- Usual radiologic findings are mass lesion or pneumonia
- On CT, central area of low attenuation and ring like rim enhancement
- More than 50% of cases include pleural thickening, effusion or empyema
- Mediastinal infection is uncommon, usually arising from thoracic extension

Diagnosis

- Aspirations and biopsies are being used successfully to obtain clinical material
- Identification of sulfur granules in pus
- Microbiological identification is often precluded by prior antibiotics
- For optimal yield, the avoidance of even a single dose of antibiotics is mandatory
- Primary isolation requires 5-7 days of anaerobic culture but may take 2-4 weeks

Treatment

- Prolonged treatment
- Extensive successful clinical experience
  - Penicillin, amoxicillin , erythromycin, tetracycline, doxycycline, minocycline, clindamycin
- Agents should be avoided
  - Metronidazole, aminoglycosides, oxacillin, dicloxacillin, cephalexin
- In some cases, combined surgical plus medical management