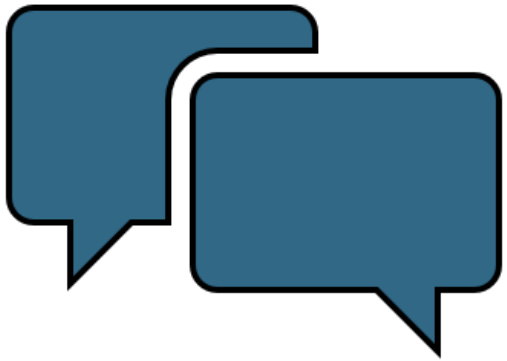
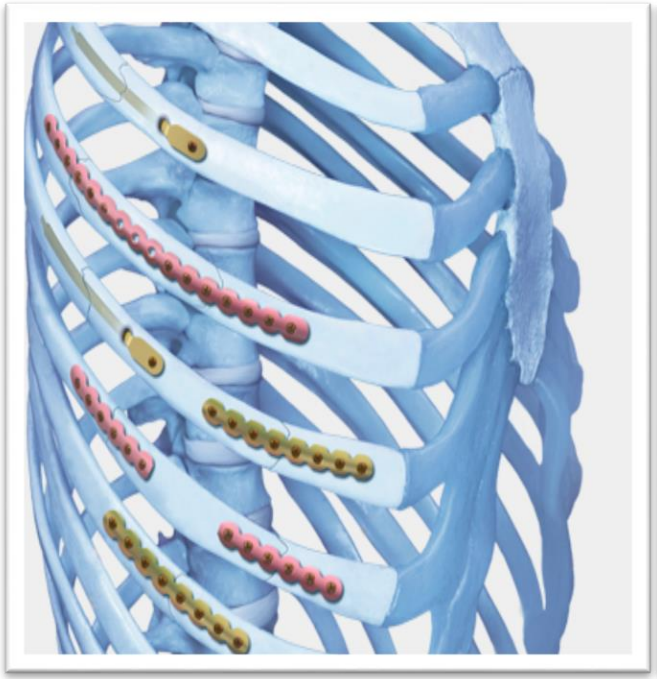


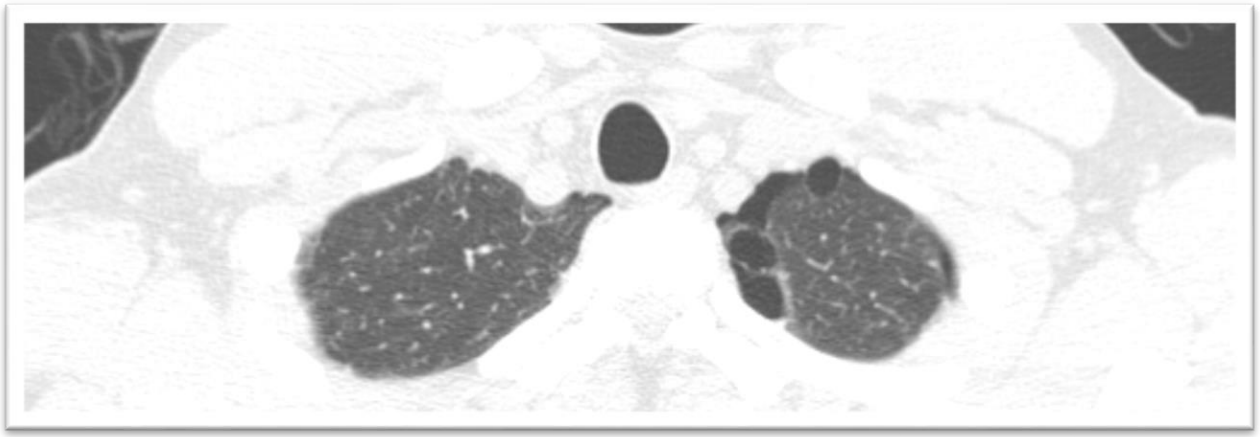
CASE DISCUSSION

충북대학교 김도훈

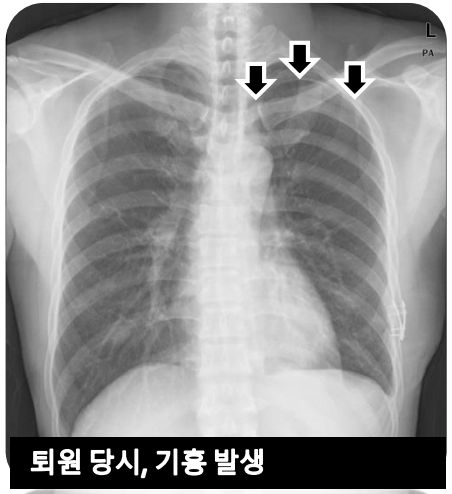
Case 1.Postoperative Recurrent Pneumothorax

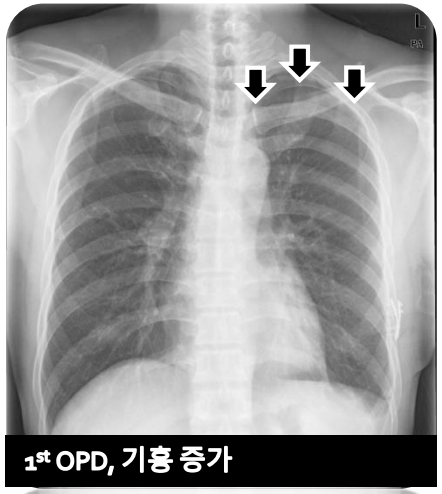
- 48/M, smoker
- Rib fractures (5-8th)
- No hemothorax
- Multiple bullae on left apex
- Rib fixation on 7,8th rib
- Four-hole plate *2 with 12mm screw *8

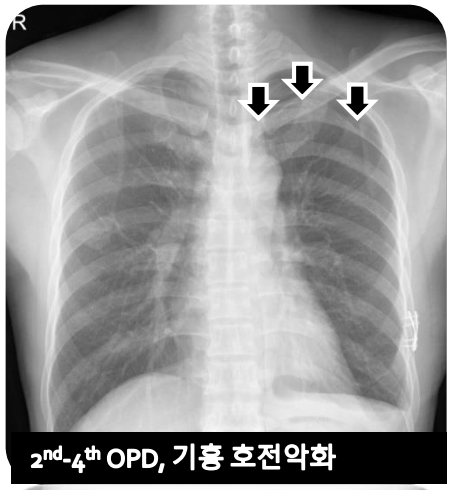


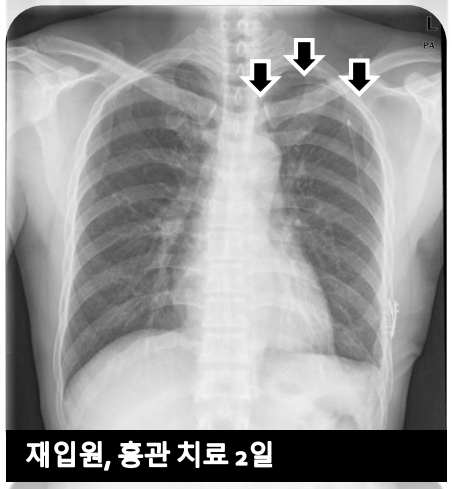


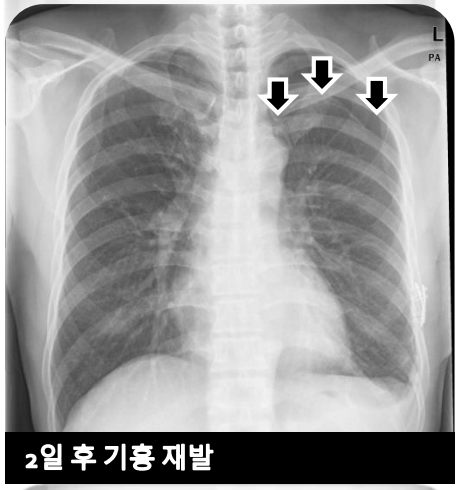
Progress


퇴원 당시, 기흉 발생


1st OPD, 기흉 증가


2nd-4th OPD, 기흉 호전악화


재입원, 흉관 치료 2일


2일 후 기흉 재발

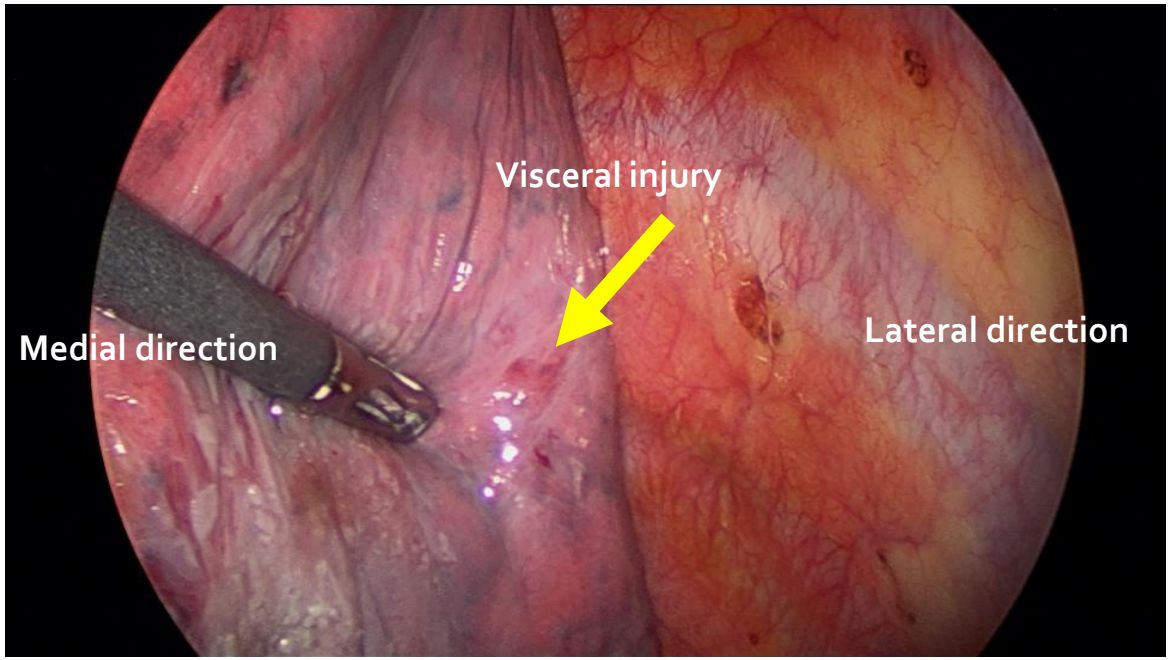

흉관 재삽관, 재발관, 기흉발생

Quiz

- Cause of Pneumothorax?
  - Bullae
  - Screw
  - Smoking
  - Rib fractures

- Treatment of Pneumothorax ?
  - Intercostal Chest drainage
  - Wedge resection
  - Surgical pleurodesis
  - Screw removal

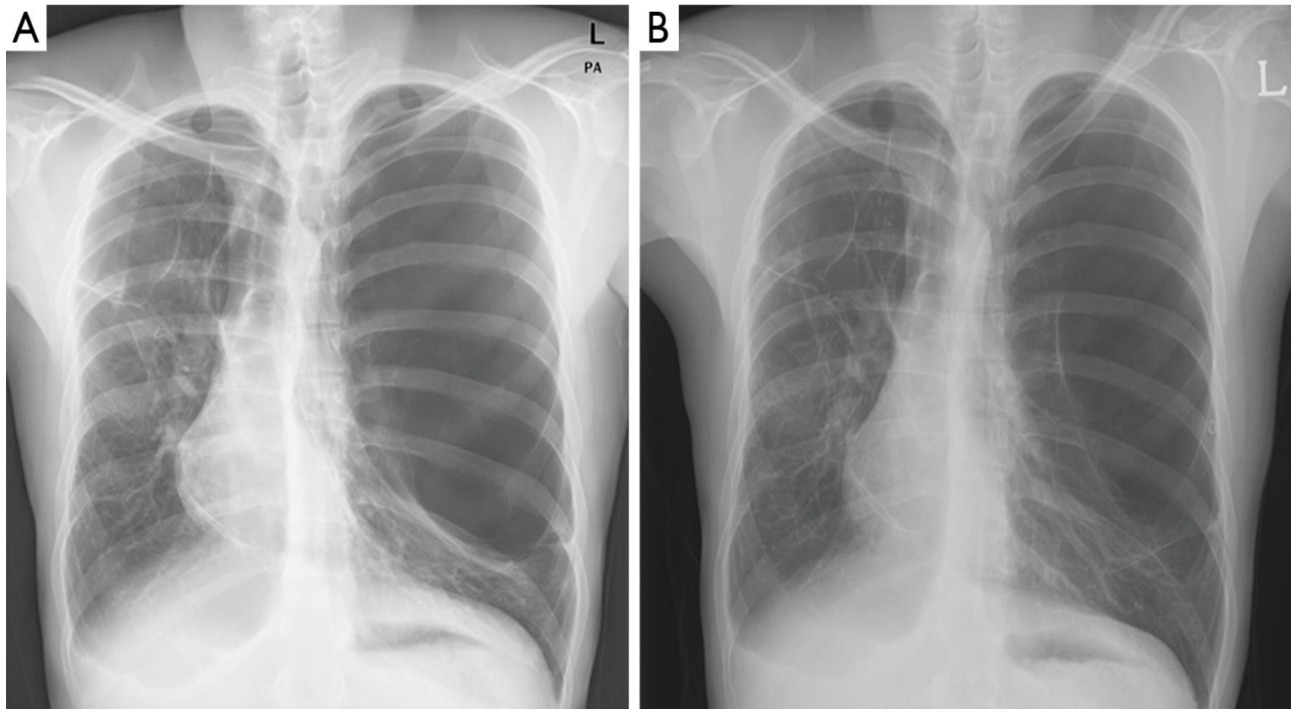
Clinical course and outcomes



- Surgery
  - Via VATS
  - Wedge resection and Screw removal
- Outcomes
  - No recurrence of Pneumothorax

Case 2. Recurrent PNX by Neurofibromatosis type 1

- 30/M
- ICD many times
- First and second PNX
  - VATS wedge resection
  - Discharge after 12 days
- Third and Fourth PNX
  - 2nd VATS parenchyma suture and applying PGA felt on the hole of the bullae
  - Continuous and bulky air leakage



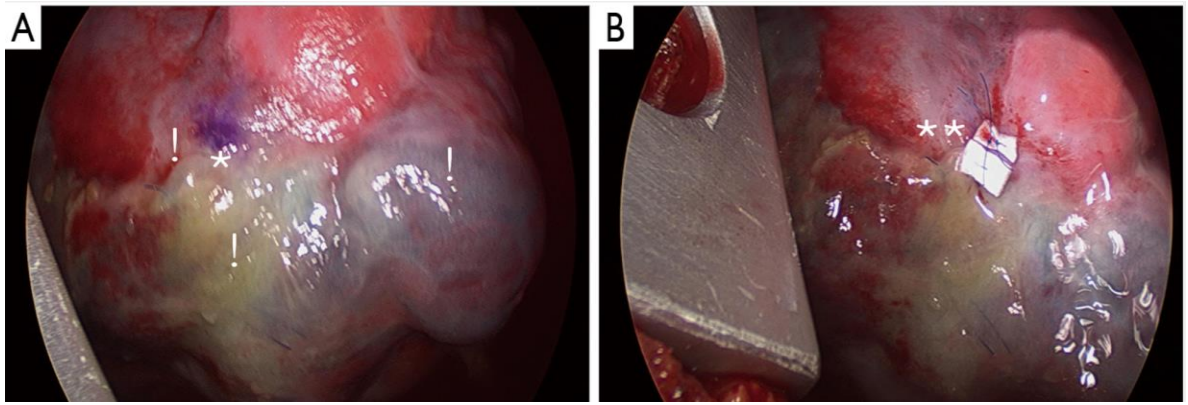
Quiz

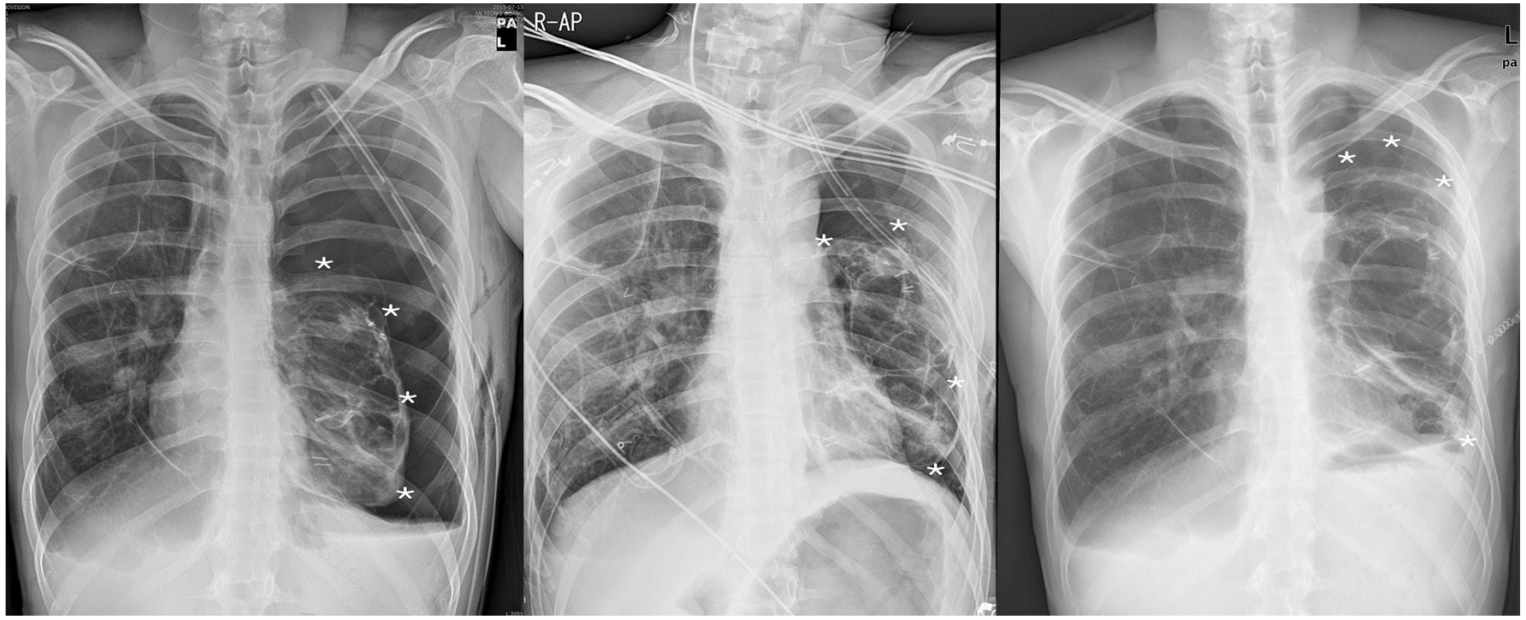
- What would be the next options?
  - AM
  - Wedge resection
  - Pleurodesis
  - Exploration, anyway

- If you do a surgery, what is your option?

Clinical course and outcomes

- Redo surgery via thoracotomy
  - 3rd Exploratory thoracotomy
  - Re-suture on the PGA felt
- Outcomes
  - Discharge POD 6th day
  - No OPD visit

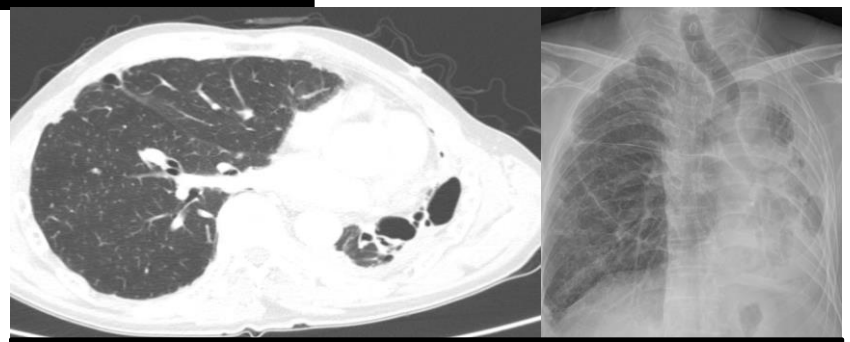




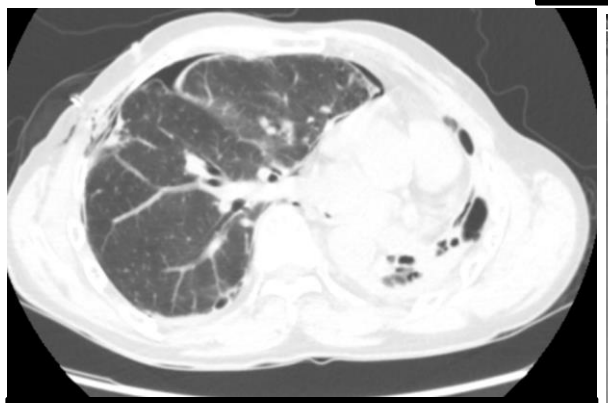
Case 3. Prolonged Air Leakage after Lobectomy

- 62/M
- s/p LULobectomy , 10 years ago
- DOE in daily activity d/t left destroyed lung
- PNX developed in right side
  - CTD via 12Fr
  - PAL/ collapsed lung

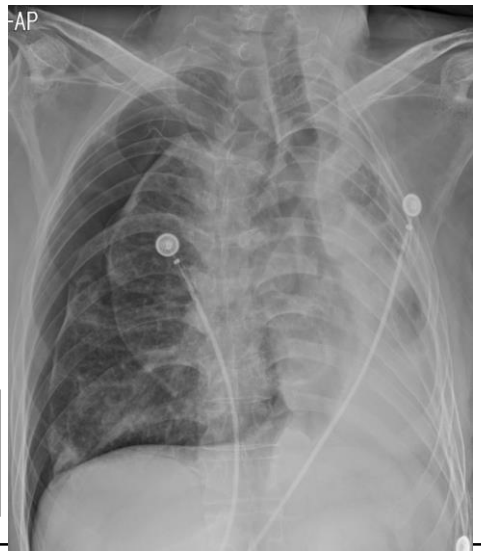
2014. 4 좌하엽 종양과 외부 병원 수술 후 본원 내원



2018. 5 좌하엽 수술 후 destructive LUL in CT and CPA

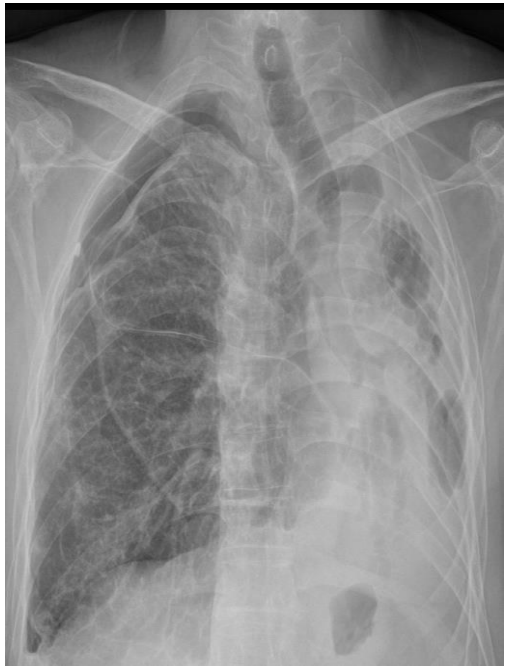


2019.2 우측 흉관삽관 후.
우측 기흉으로 입원, 저명한 폐렴 없음.
좌측 destruction 진행



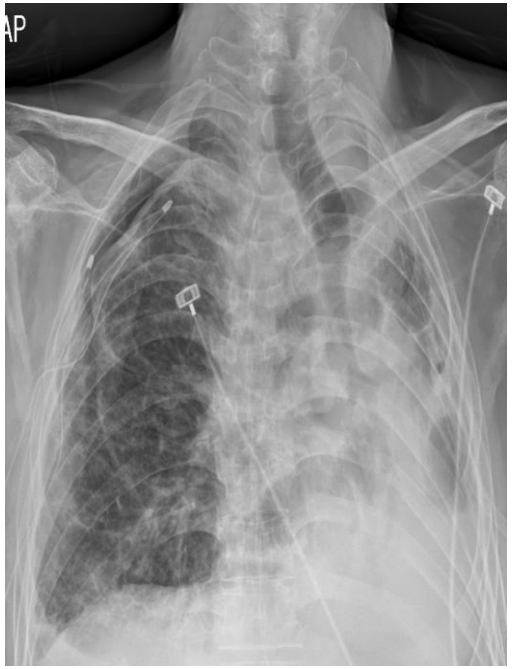
Progress

2019.2.8 PNX 감소
ITD 12 Fr #1
Sx. relieved



2019.2.13 PAL 증가
ITD 12 Fr #1
Dyspnea

2019.2.13 PNX 증가
ITD 12 Fr #1
s/p chemical pleurodesis



2019.2.15 PAL 증가
ITD 12 Fr #2 (추가)
Dyspnea

Quiz

- What would be the cause of aggravation of the patients?
  - Small CD
  - Low lung function
  - Destroyed lung
  - Pleurodesis

- What would be the next options?
  - Wait and see
  - Large bore chest tube insertion
  - Ambulatory management
  - Surgical Pleurodesis
  - Wedge resection

Progress

2019.2.15 PAL
ITD 12 Fr #2 (추가)
Dyspnea
intermittent

2019.2.17 PAL
ITD 12 Fr #1, 28 Fr #1 추가
Dyspnea

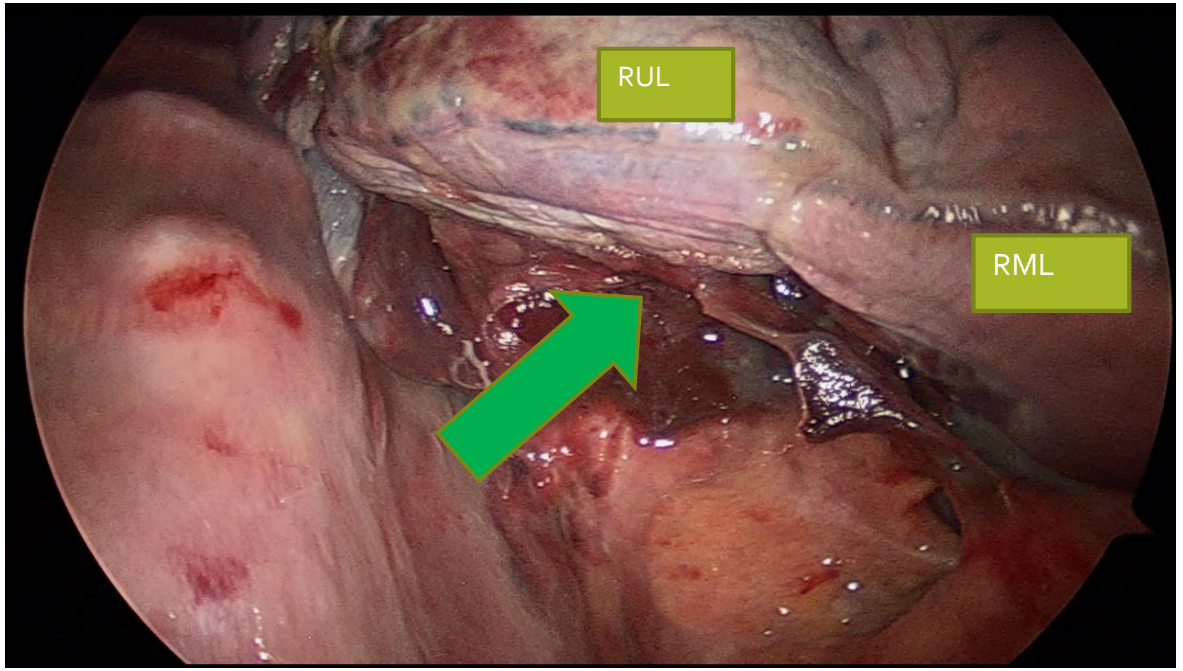
2019.2.18
ITD 12 Fr #1, 28 Fr #1
Sudden Dyspnea aggravation, PAL

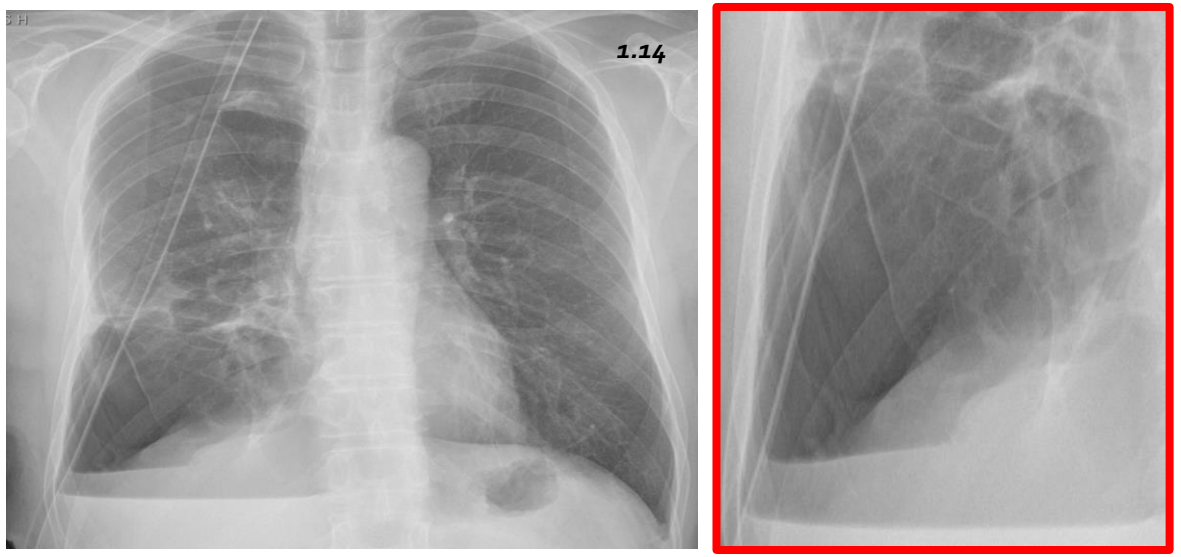
Clinical course and outcome

- ARDS
  - After chemical pleurodesis
  - Transfer to the other hospital for ECMO
  - Expire at arrival on the ER

Case 4. PAL for Long term steroid user

- 65/M, 건선으로 10년간 스테로이드 복용
- VATS RLLobectomy with MLND
- Postoperative PAL
- VATS exploration after POD 10 days
  - Air leakage in RUL peri-hilar lesion
  - No symphysis with RML or diaphragm
  - Suture → cut-through → Tachocomb + suture (neighboring healthy visceral pleura) → No air leakage in OR but recurred after 3 days

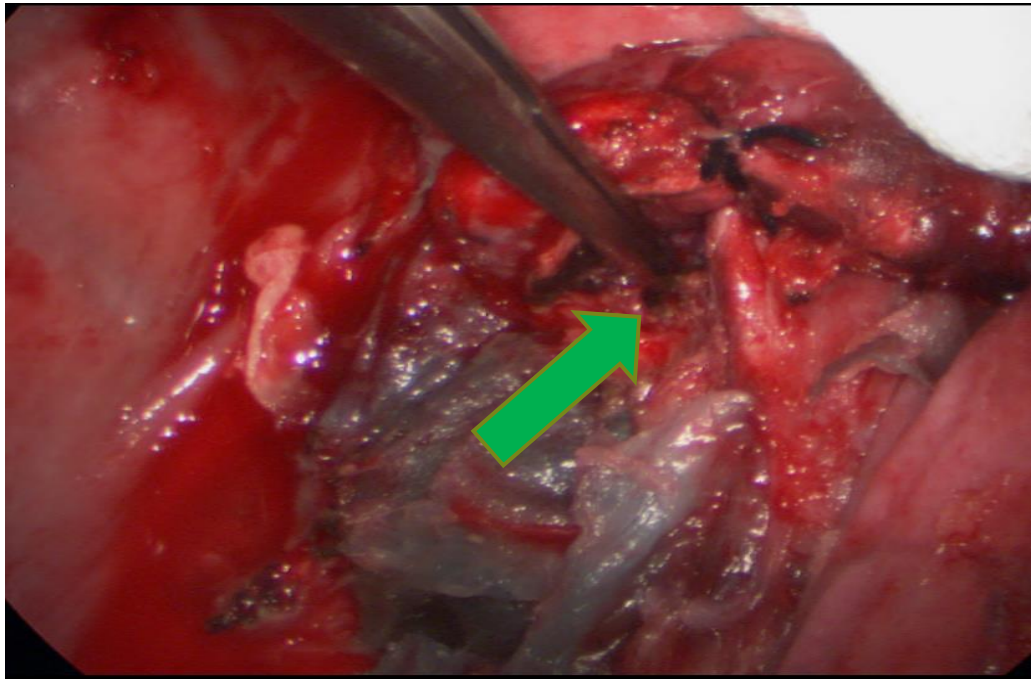




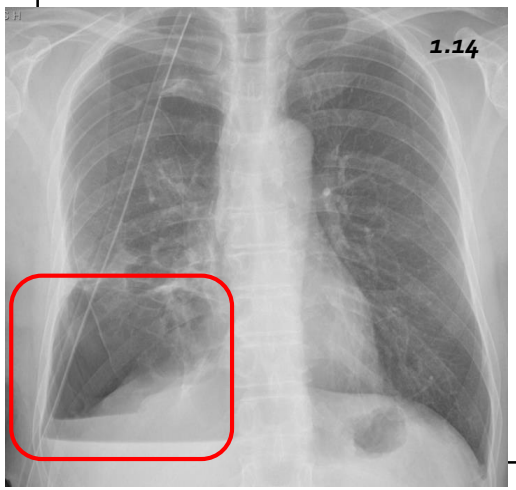
Quiz

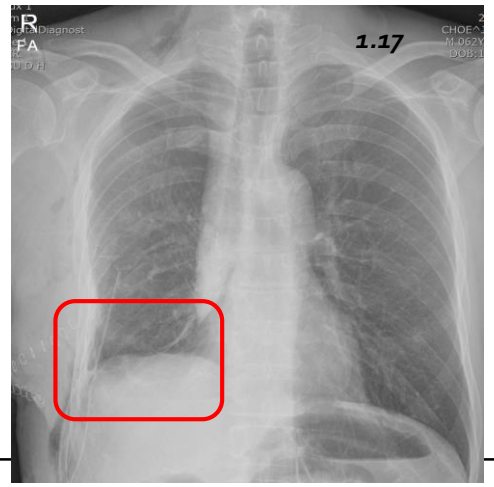
- What would be the next options?
  - Wait and See
  - AM
  - Pleurodesis
  - Surgery again

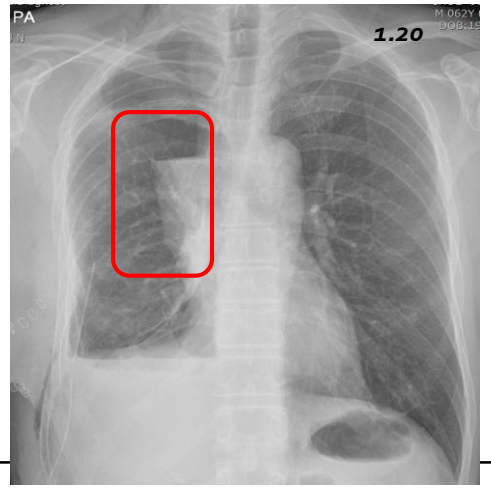
Clinical course

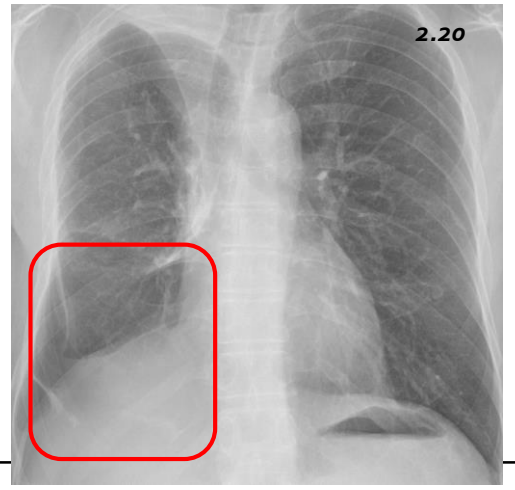


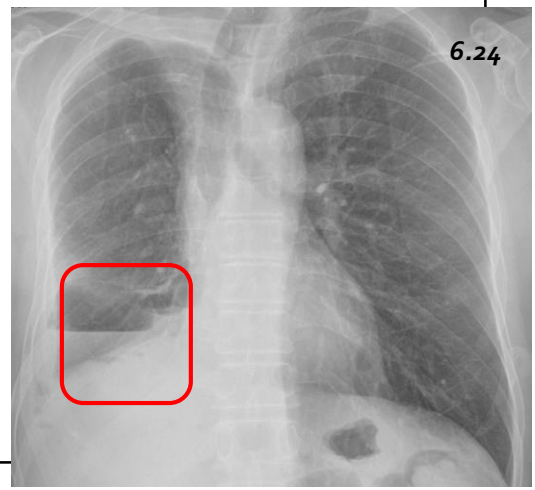
- Second redo Exploratory thoracotomy (POD 18th)
  - Air leakage site: RUL bronchiole in parenchyma
  - Teflon pledgeted 5-0 prolene suture
  - Apply of Histoacryl, Neoveil, Greenplast
  - Apply of SteriTalc
- No air leakage on suture site





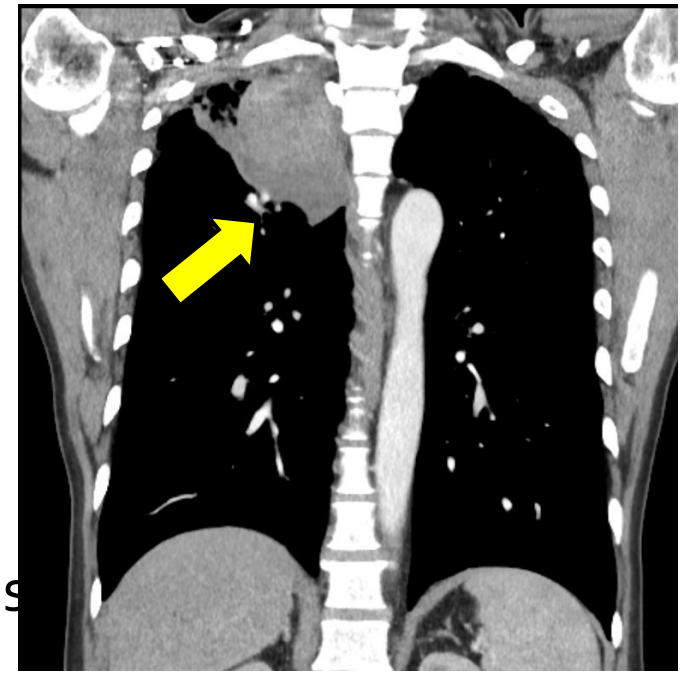


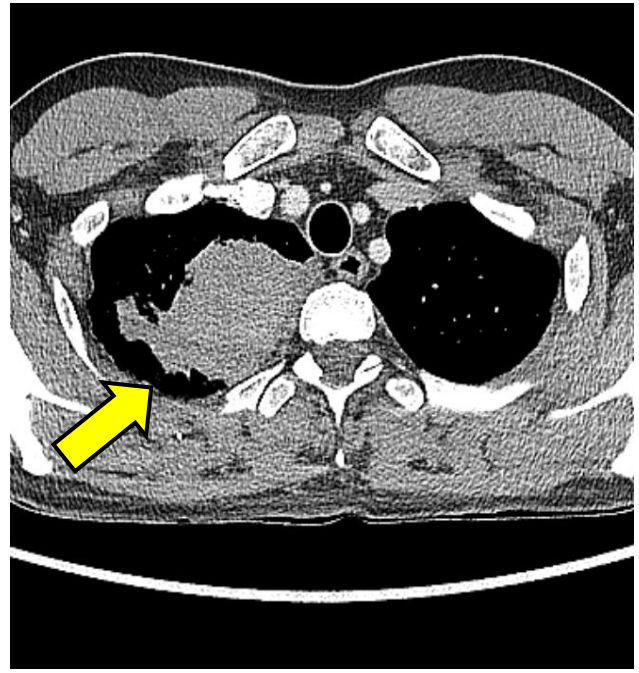


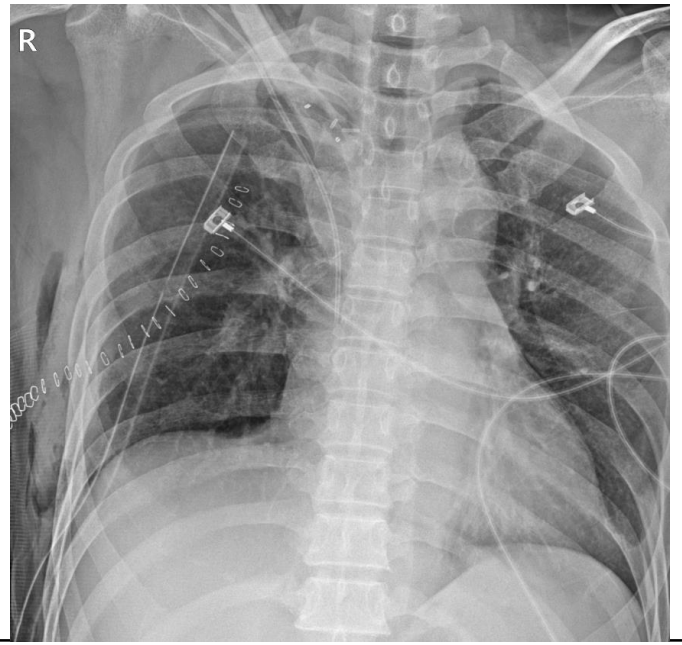


Case 5. Ghost PNX after IO+Surgery

- 43/M
- Pancoast tumor in RUL , cT3N1
- Neoadjuvant **Nivo** + CTx for 2 months
- **s/p RULobectomy, MLND via thoracotomy**
  - Ro resection, pT2aNo
- No air leakage
- Increased PNX POD 4th







Lung, right upper lobectomy:

1. ADENOCARCINOMA, poorly differentiated
   (solid adenocarcinoma)

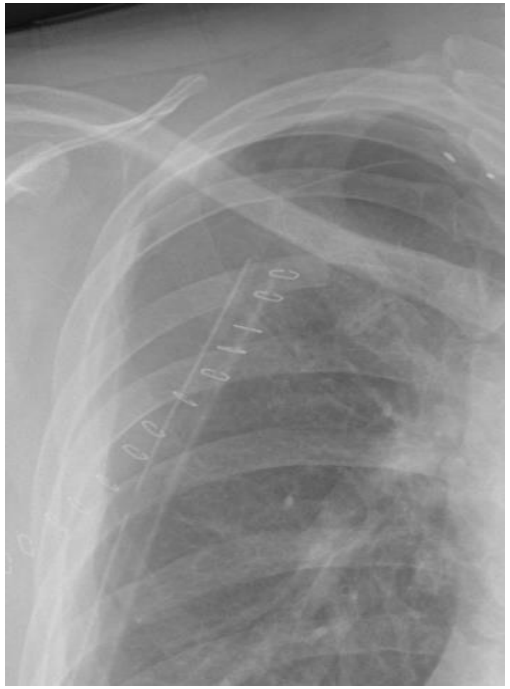
   with 1) size: 4 x 3.8 x 2.5 cm
   2) pleural invasion: not identified
   3) lymphovascular invasion: not identified
   4) perineural invasion: not identified
   5) micropapillary component: not identified
   6) tumor spread through air spaces (STAS): not identified
   7) resection margin: free from carcinoma
   8) lymph node metastasis: no metastasis in 11 regional lymph nodes (pN0)
   (peribronchial lymph node, 0/6; LN3, 0/1; LN4, 0/2; LN7, 0/1; LN9, 0/1)

2. No diagnostic abnormalities in remaining parenchyma

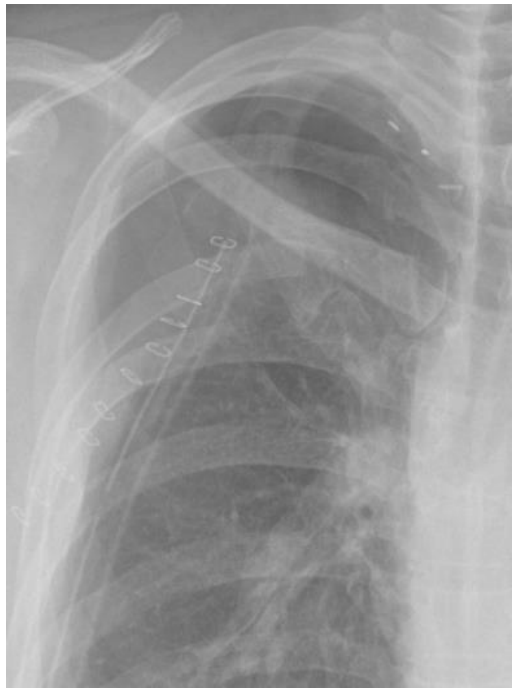
Pathologic TNM stage: pT2a pN0

Progress

POD #4
CTD 28Fr
Increased PNX
No air leakage



POD #6
CTD clamping
No change of PNX
Declamping 후 air leakage발생



POD #8
PAL – small
PNX – no change
s/p VATS exploration – No air leakage on field

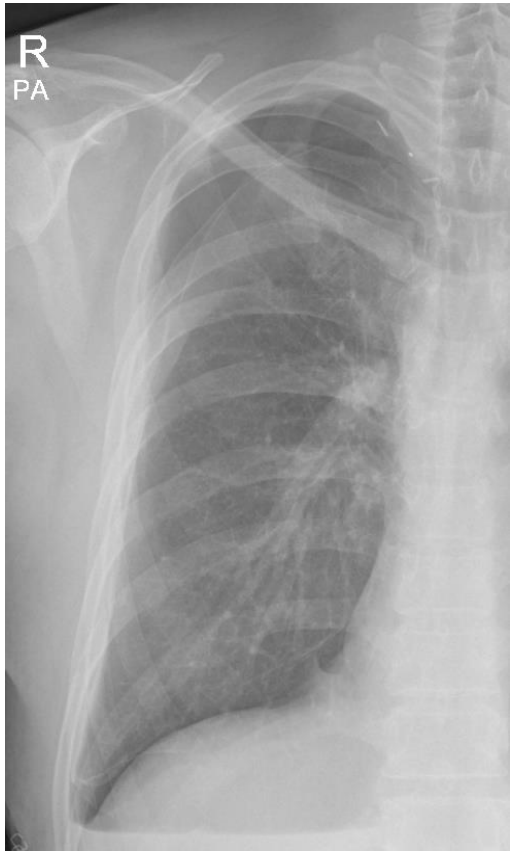
POD #16
PAL – small
PNX – no change

Quiz

- What would be the next options?
  - Wait and See
  - Tube removal
  - Ambulatory management
  - Pleurodesis
  - Surgery again

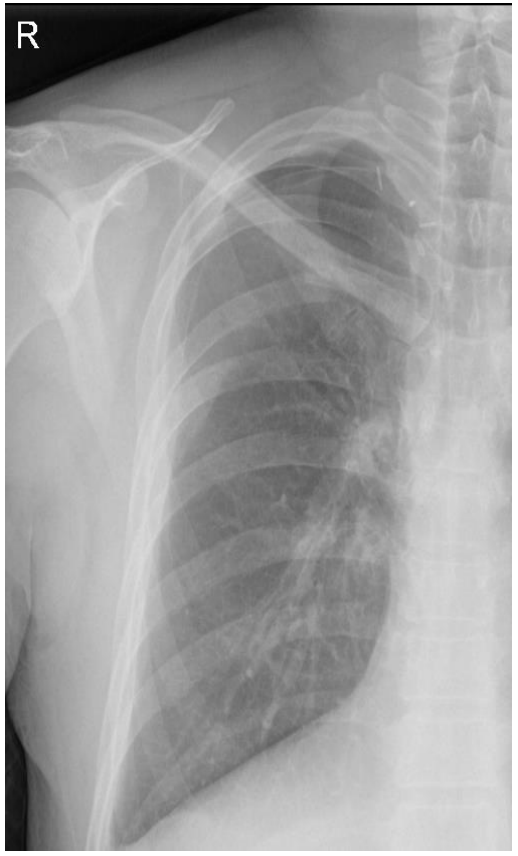
Progress

POD #16
CTD 28Fr
Just Before tube removal



POD #16
s/p soon after Tube removal
Increased PNX

POD #19
No tube
Decreased PNX



POD #26
1st OPD
No PNX

Clinical course and outcome

- Good clinical outcomes
  - No recurrence, No metastasis
  - No PNX

- Question
  - Cause of PAL?
  - Cause of stopped PAL in the surgical field
  - Cause for the improvement of PNX

Conclusion

POP (postoperative pneumothorax)는 spontaneous pneumothroax와 다르다.

- More fragile, less functional, easily exhausted

POP는 기저 질환과 원인에 맞는 치료가 필요하다.

POP는 step by step 보다 All-in 이 효과적이다.

POP의 원인과 치료 방법을 체계화, 지침화 하는 노력이 필요하다.