KANGBUK SAMSUNG HOSPITAL

SUNG KYUN KWAN UNIVERSITY

Nothing but Guidelines (Real World)

Surgical Management (Pneumothorax)

강두영

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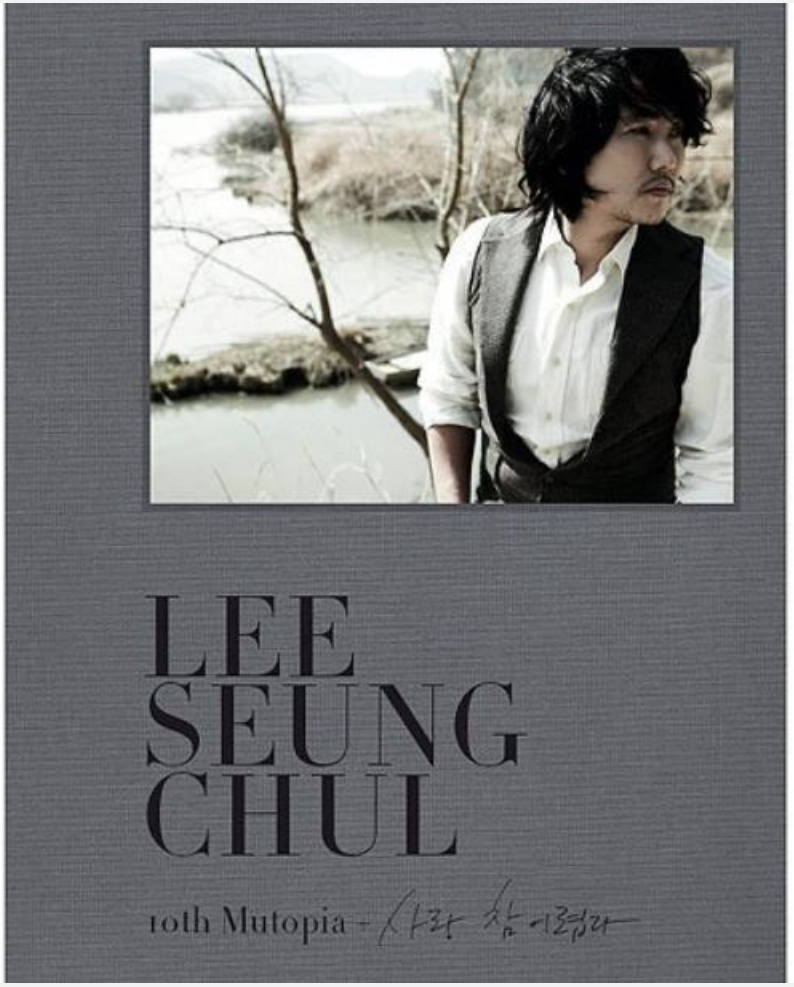
기흉 참 어렵다!!!



Surgical management of PSP

(Primary spontaneous pneumothorax, PSP)

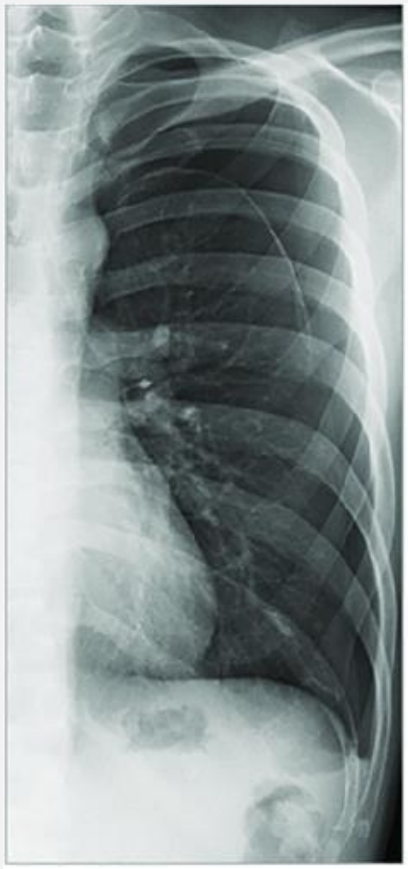
Lung expansion

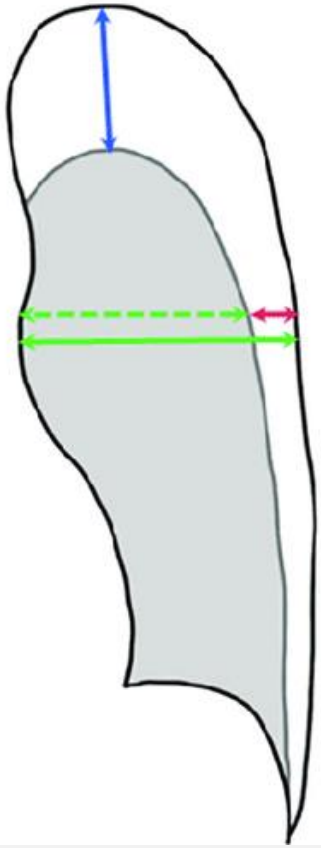
- Observation (medical treatment)
- Pleural drainage *

Reducing recurrence (or Recurrence prevention)

- Pleurodesis
- Bullectomy **

Pleural drainage





American college of chest physicians:

Apex-cupola distance

British thoracic society:

Interpleural distance at hilum

Light index:

L: Diameter of collapsed lung

H: Diameter of inner hemithorax at hilum

Estimated pneumothorax size = $(1-L^3/H^3)\times 100$

Pleural drainage for PSP

Size of pneumothorax ≠ Clinical symptoms

Determination of pleural drainage

Size of pneumothorax vs Clinical symptoms

"Size of pneumothorax is no longer an indication for invasive management (although does dictate the safety of conducting an intervention) and the use of chest drains is mainly centred around patients with high-risk characteristics"

BTS Guideline, *Thorax* 2023

Clinically stable patient

Respiratory rate < 24 breaths/min

Heart rate > 60 beats/min or , < 120 beats/min

Normal BP

Room air O2 saturation > 90%

Patient can speak in whole sentences between breaths

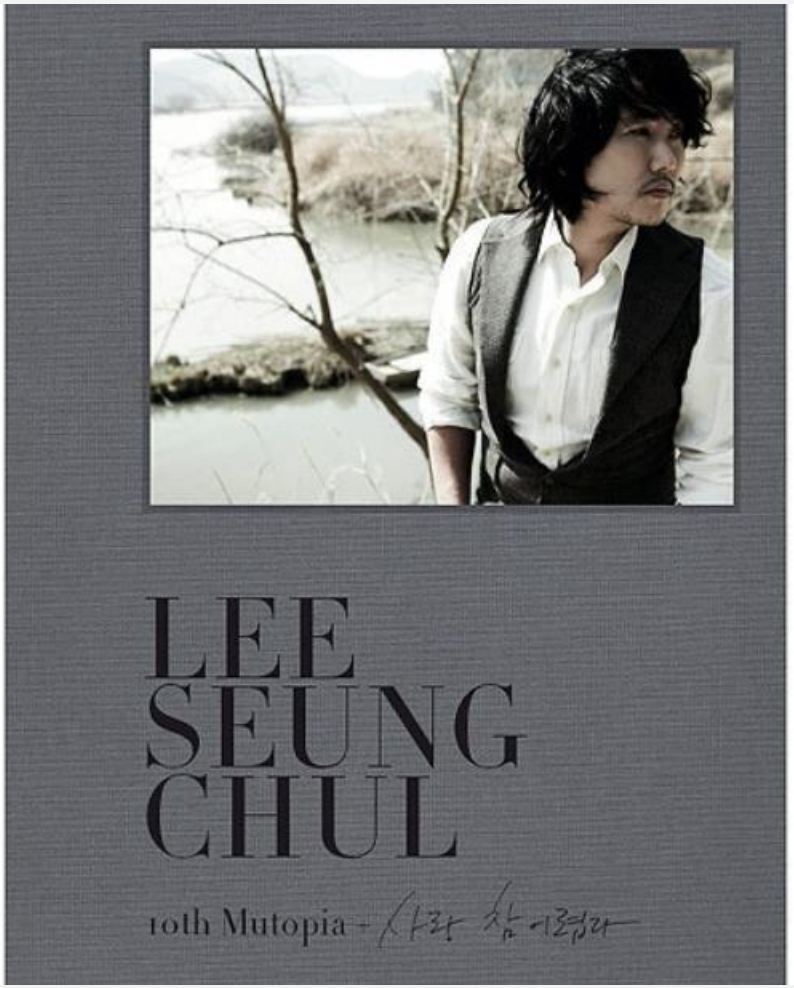
*chest pain: do not influence pleural drainage strategy

ACCP Delphi Consensus Statement, *Chest* 2001:119

* BTS Guideline, *Thorax* 2010:65 : observable breathlessness

기흉이 어려운 이유

- 기흉 배액을 가이드라인에 맞춰서 해도 되나?



Indications for surgical advice

- First pneumothorax presentation associated with tension and first secondary pneumothorax associated with significant physiological compromise
- Second ipsilateral pneumothorax
- First contralateral pneumothorax
- Synchronous bilateral SP
- Persistent air leak (despite 5–7 days of chest tube drainage) or failure of lung re-expansion
- Spontaneous hemothorax
- Professions at risk (eg, pilots, divers, military personnel), even after a single episode of pneumothorax
- Pregnancy

Pneumothorax recurrence???

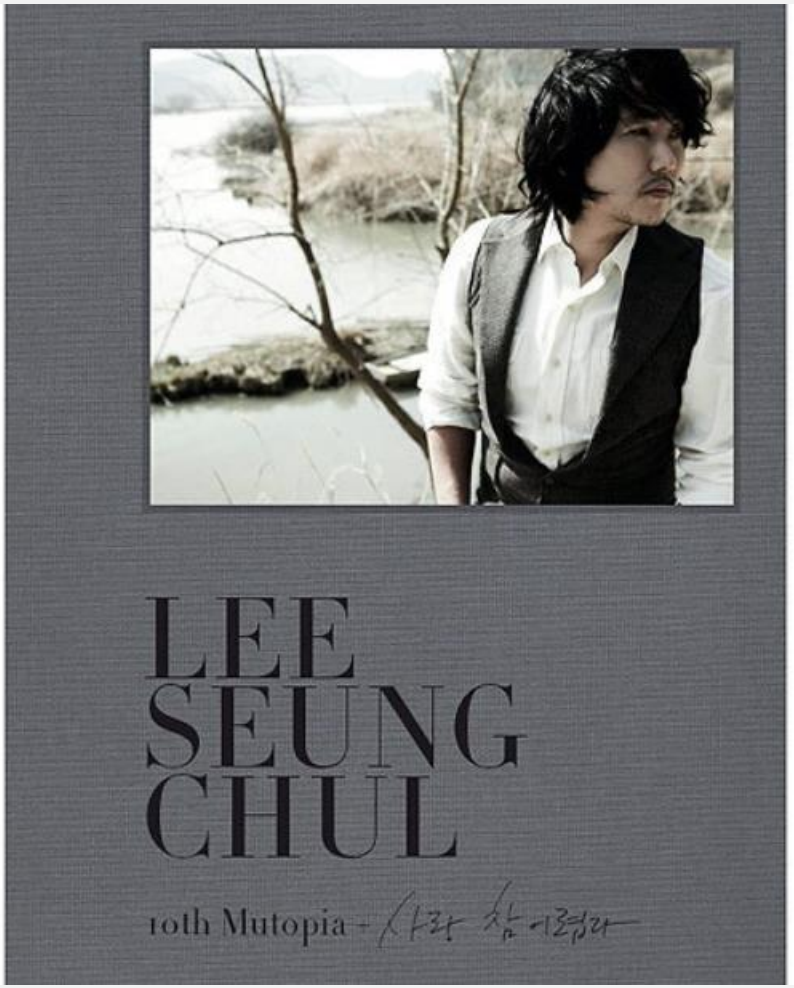
- Time period
- Mild (or non) symptom

3 days?

BTS Guideline, *Thorax* 2023

기흉이 어려운 이유

- 기흉 배액을 가이드라인에 맞춰서 해서 되나?
- 여전히 궁금한 수술 적응증



Indications for surgical advice

"Patient choice will play a part in decision making, and even those without an increased risk in the event of a pneumothorax because of their profession may elect to undergo surgical repair after their first pneumothorax, weighing the benefits of a reduced recurrence risk against that of chronic pain, paraesthesia or the possibility of increased costs"

BTS Guideline, *Thorax* 2010:65

Major premise for PSP surgery to make sense (vs Medical treatment)

Effectiveness of recurrence prevention ↑

Safety of surgical management ↑

Patient discomfort during surgery ↓

*Appendicitis: 40% recurrence rate after antibiotics therapy

Recurrence Prevention

VATS < Open surgery

Bullectomy only < Bullectomy + *other procedure

*other procedure: **pleurodesis, ***pleural coverage etc

**Pleurodesis

- Chemical pleurodesis: viscum album, talc, povidone etc
- Mechanical pleurodesis

** Intraoperative pleural coverage

- Oxidized Regenerated Cellulose, Polyglycolic Acid

Recurrence Prevention (Proper- vs Over-treatment)

VATS (vs open surgery): proper treatment (consensus)

from the perspective of surgical safety and patient discomfort

VATS: single-, two-, three-port

- diverse depending on the surgeon

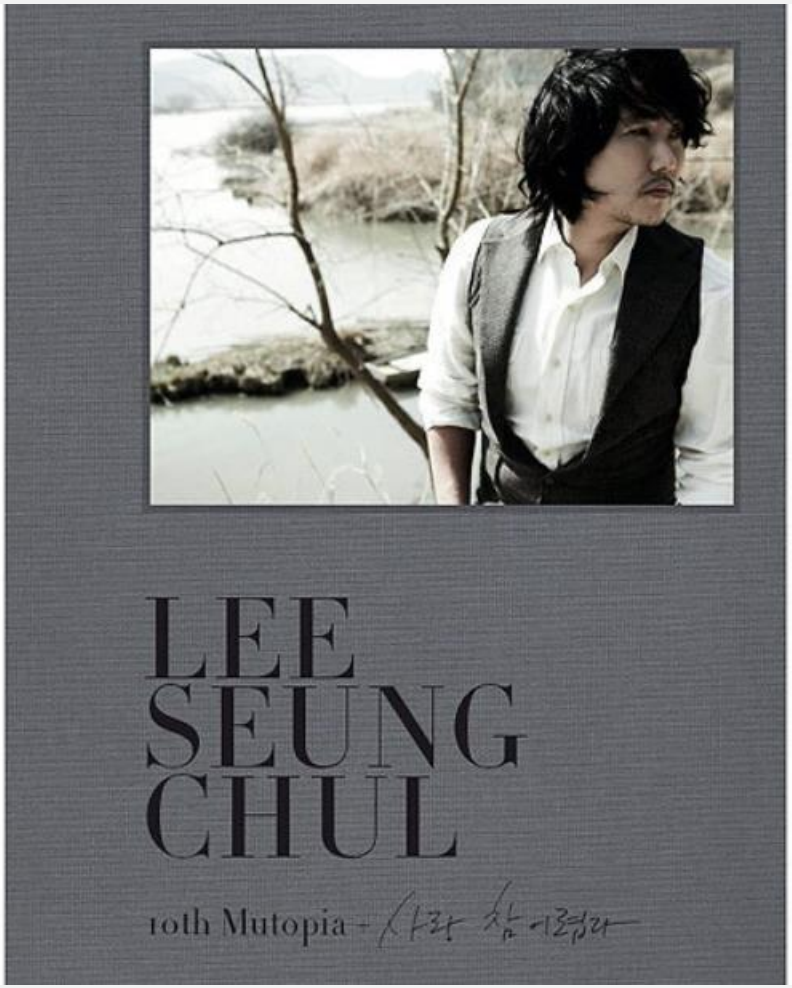
Bullectomy + *other procedure (preferred method) vs bullectomy only

*other procedure: pleurodesis, pleural coverage etc

- diverse depending on the surgeon

기흉이 어려운 이유

- 기흉 배액을 가이드라인에 맞춰서 해서 되나?
- 여전히 궁금한 수술 적응증
- 수술 후 기흉 재발을 줄이기 위한 다양한 방법들



Nothing but Guidelines (Real World)
: Surgical Management of PSP

- Provide sufficient information to the patient
- Respect a patient's opinion
- Treatment may vary depending on the patient's individual conditions
- Acknowledge that the preferences of treatment methods among surgeons are different

Thank you

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