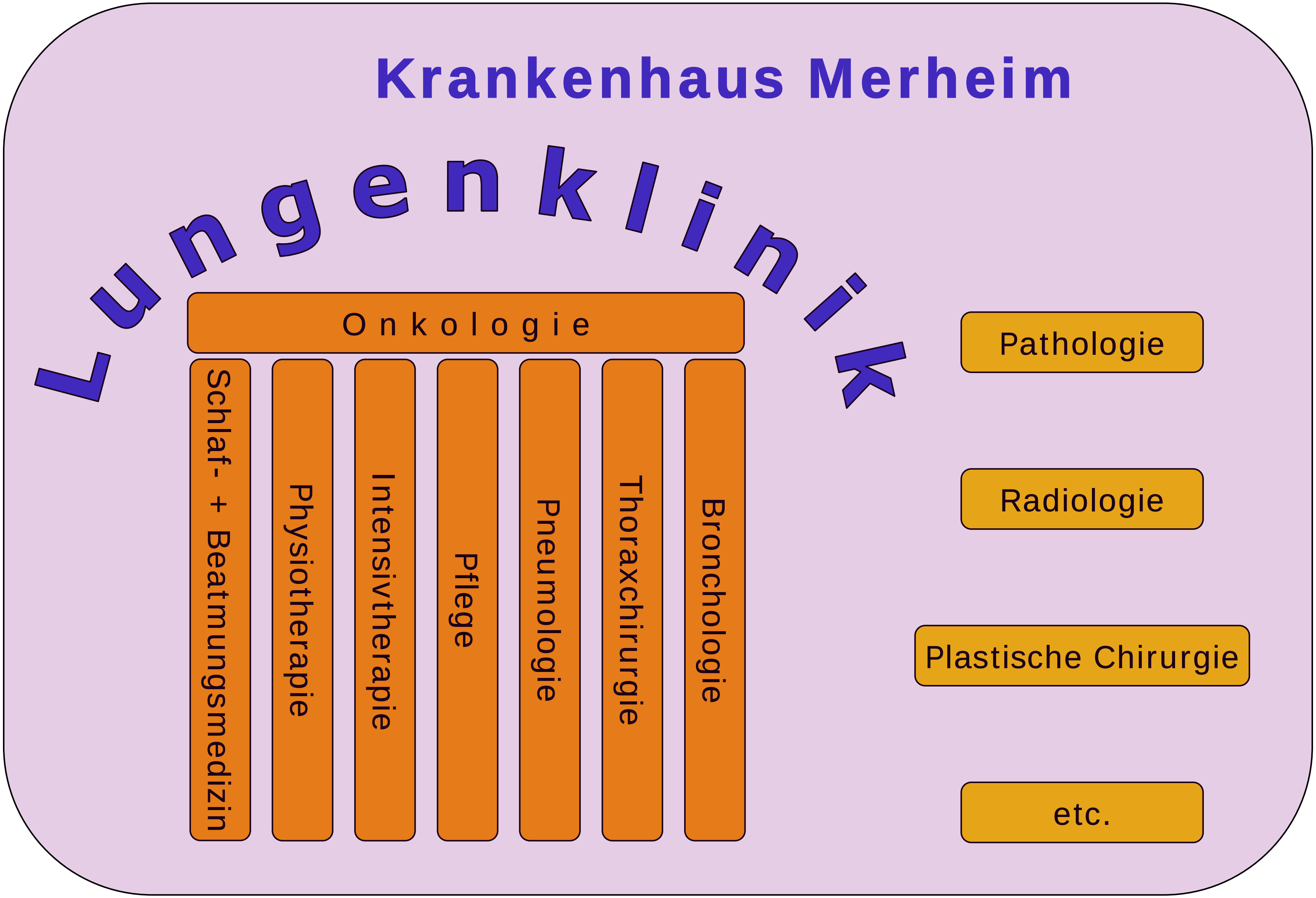
Pleuraempyem:

Behandlung durch Thorakotomie

Dr. Corinna Ludwig
Ltd. Oberärztin
Lungenklinik
Krankenhaus Merheim
Kliniken der Stadt Köln gGmbH

Krankenhaus Merheim



Lungenklinik

Onkologie

- Schlaf- + Beatmungsmedizin
- Physiotherapie
- Intensivtherapie
- Pflege
- Pneumologie
- Thoraxchirurgie
- Bronchologie

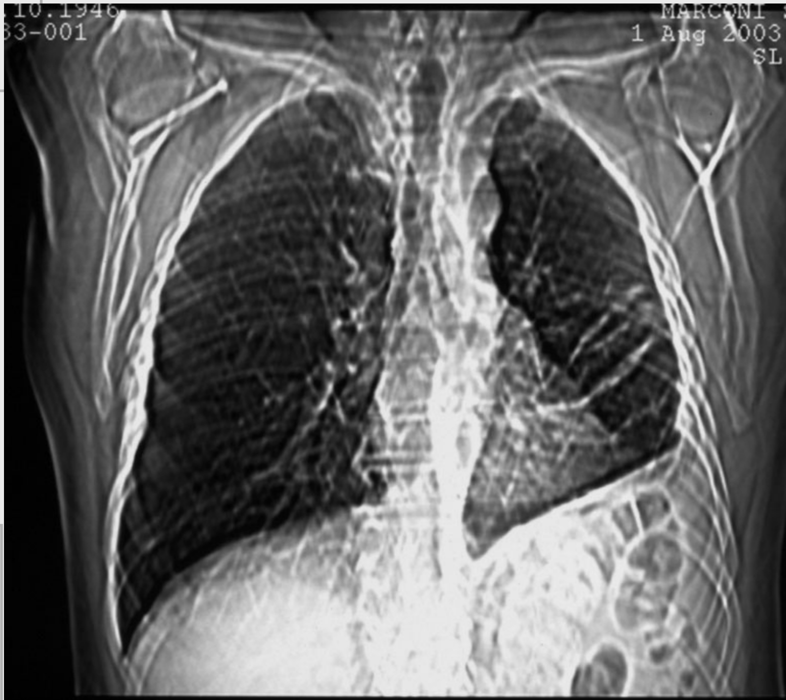
- Pathologie
- Radiologie
- Plastische Chirurgie
- etc.

Pleuraempyem: Ziele der Behandlung

Infektion behandeln

Lunge zur Ausdehnung bringen

Schnelle Rehabilitation


10.1946
33-001
MARCONI
1 Aug 2003
SL

Pleuraempyem links nach 6 Wochen konservativer Behandlung

Pleuraempyem: Einfache Einteilung

Pleuraempyem

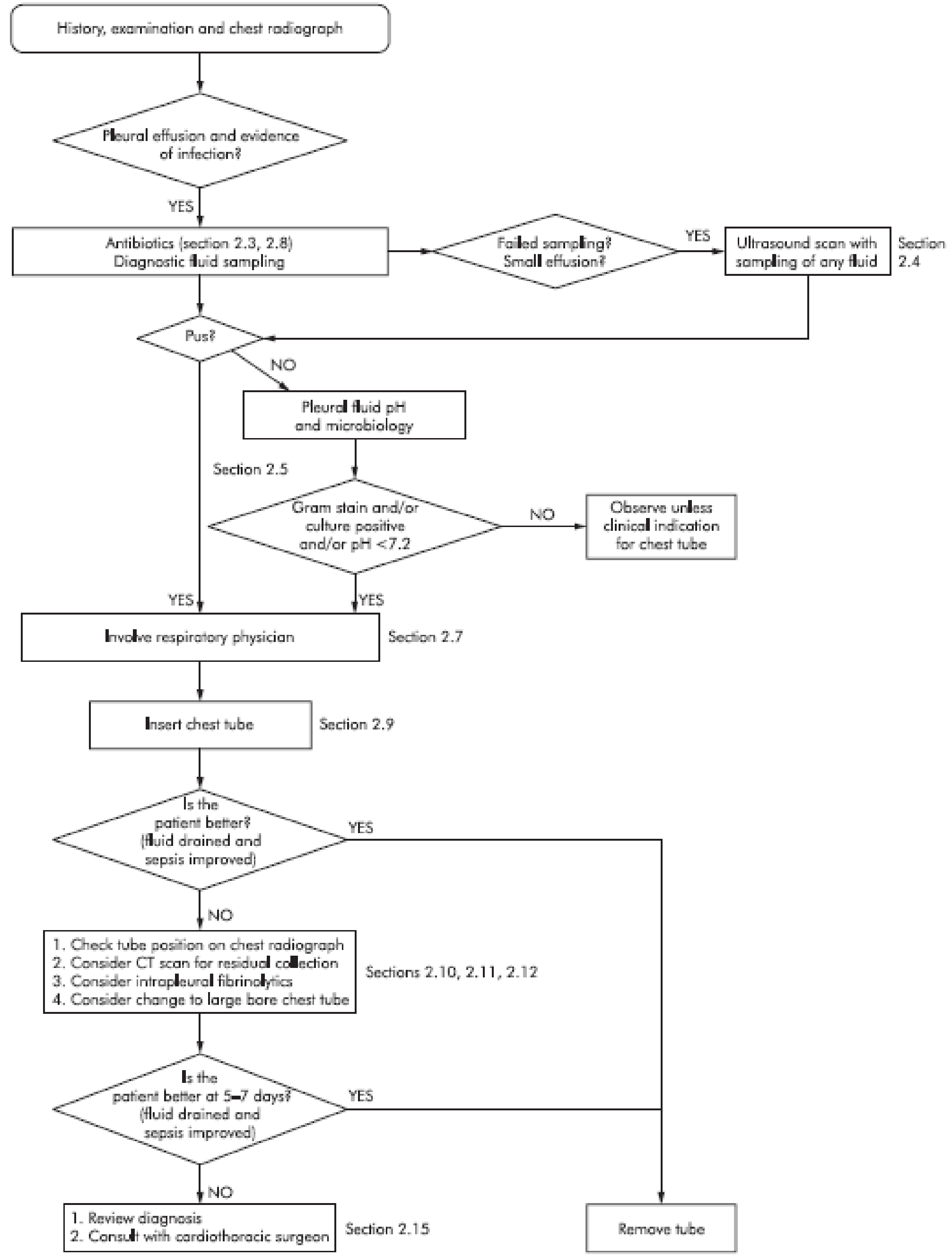
Unkomplizierter Pleuraerguß

Komplizierter Pleuraerguß

Pleuraempyem

Kompliziertes Pleuraempyem

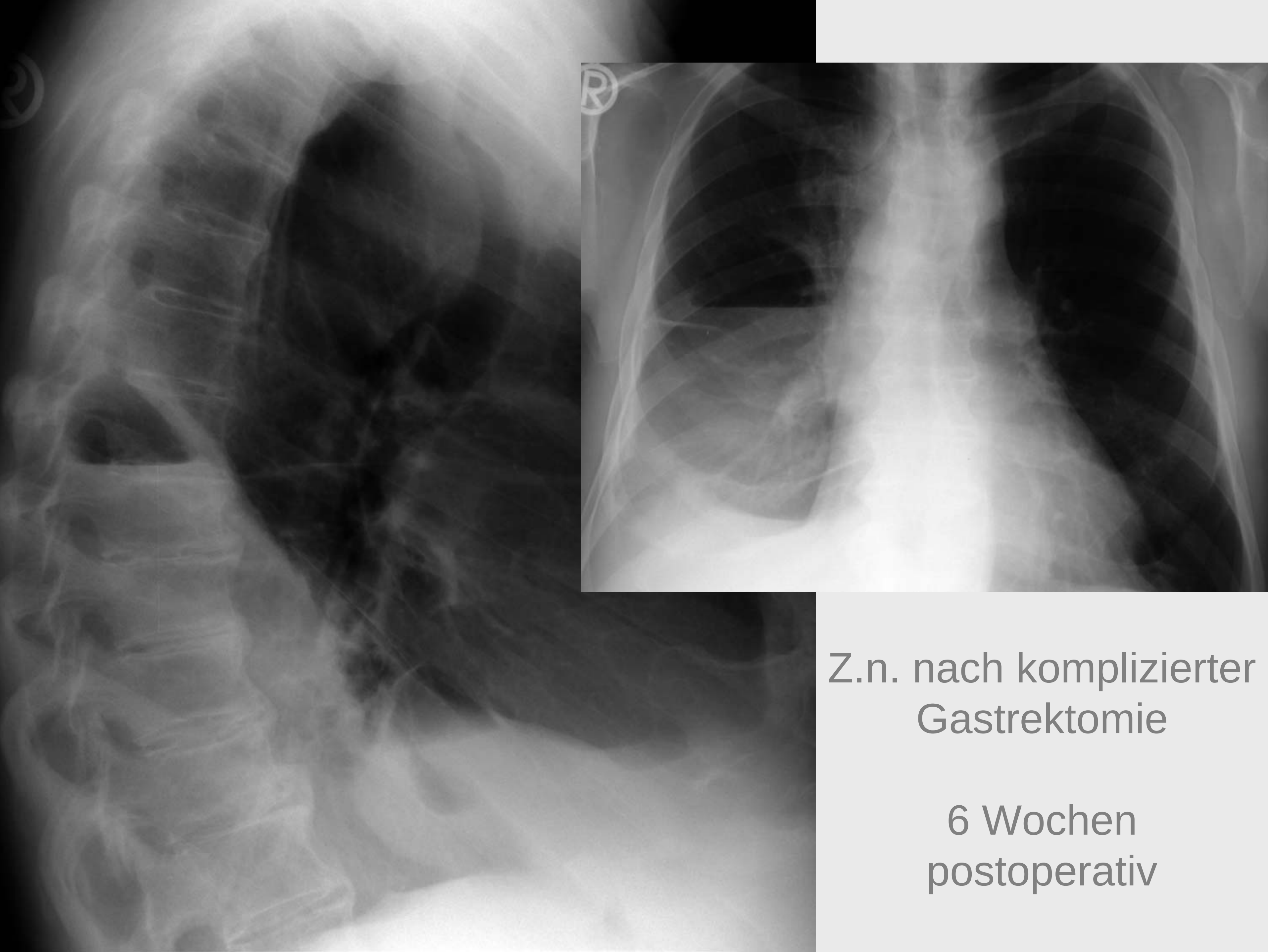
Diagnostic algorithm for the management of patients with pleural infection


History, examination and chest radiograph
Pleural effusion and evidence of infection?
YES
Antibiotics (section 2.3, 2.8) Diagnostic fluid sampling
Failed sampling? Small effusion?
YES
Ultrasound scan with sampling of any fluid
Section 2.4
Pus?
NO
Pleural fluid pH and microbiology
Section 2.5
Gram stain and/or culture positive and/or pH <7.2
NO
Observe unless clinical indication for chest tube
YES
YES
Involve respiratory physician
Section 2.7
Insert chest tube
Section 2.9
Is the patient better? (fluid drained and sepsis improved)
YES
NO
1. Check tube position on chest radiograph
2. Consider CT scan for residual collection
3. Consider intrapleural fibrinolytics
4. Consider change to large bore chest tube
Sections 2.10, 2.11, 2.12
Is the patient better at 5–7 days? (fluid drained and sepsis improved)
YES
NO
1. Review diagnosis
2. Consult with cardiothoracic surgeon
Section 2.15
Remove tube

BTS
Guidelines
2003

Pleuraempyem: Erste Maßnahme

DRAINAGE

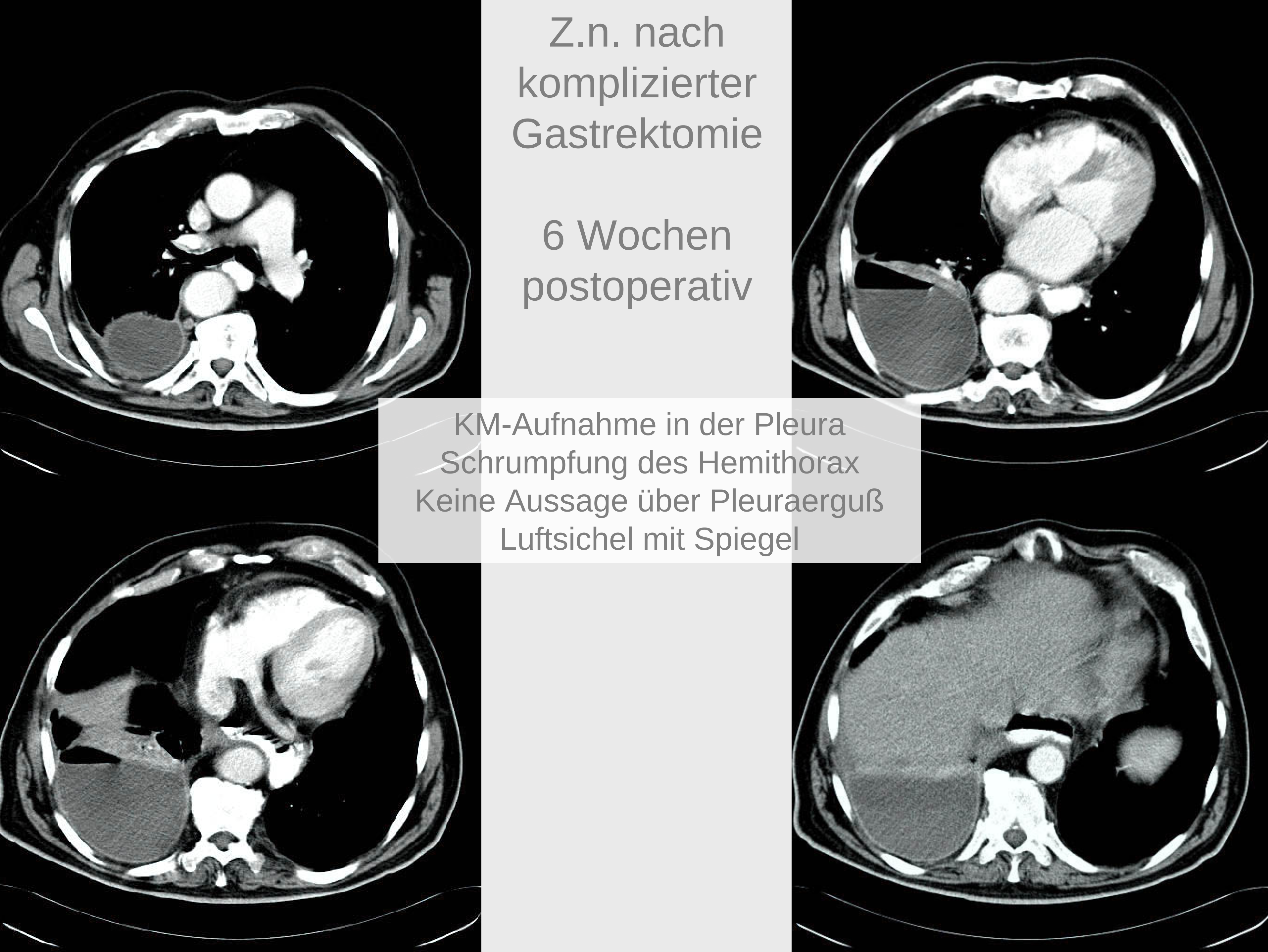


Z.n. nach komplizierter Gastrektomie

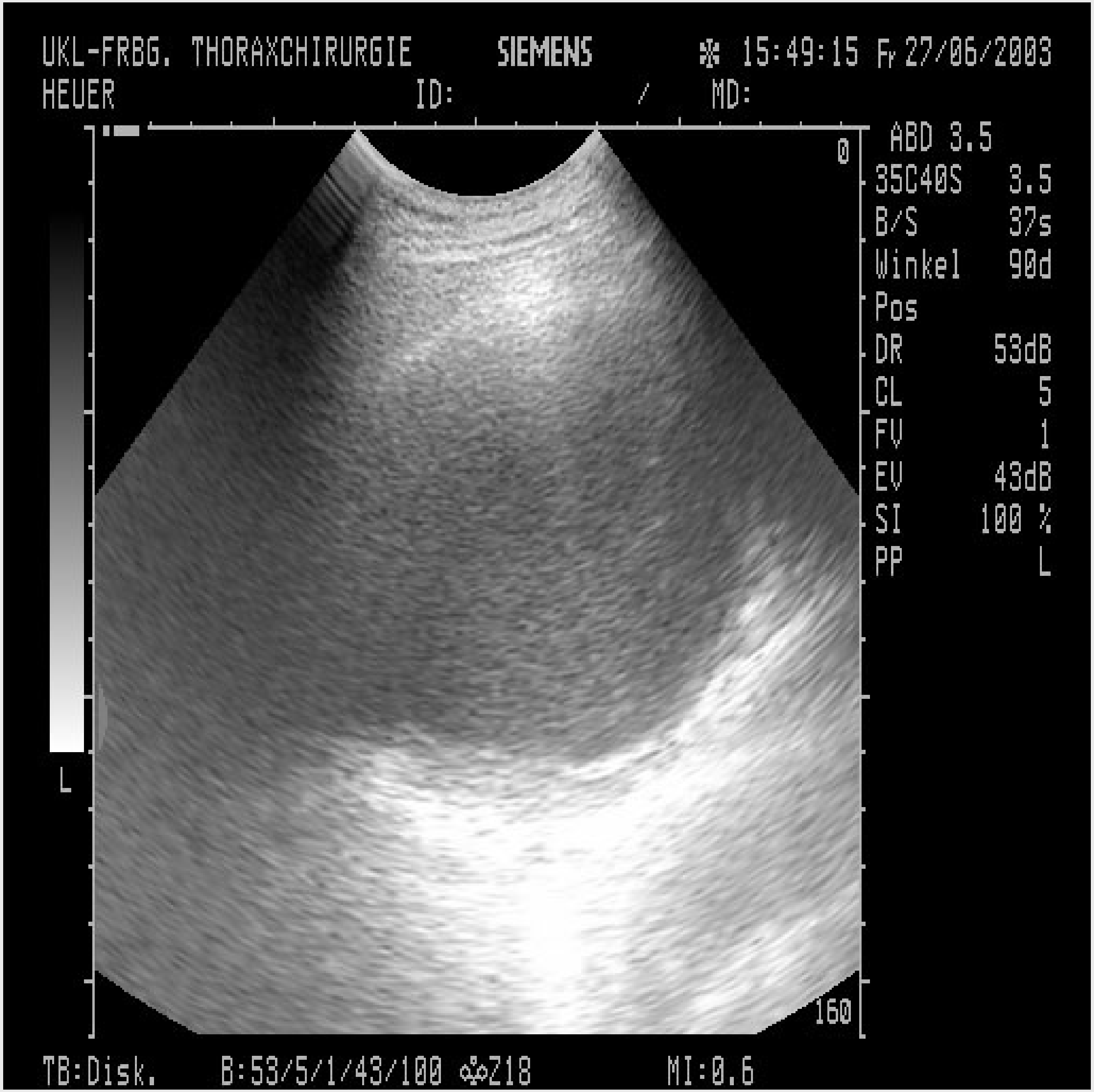
6 Wochen postoperativ

Z.n. nach komplizierter Gastrektomie

6 Wochen postoperativ



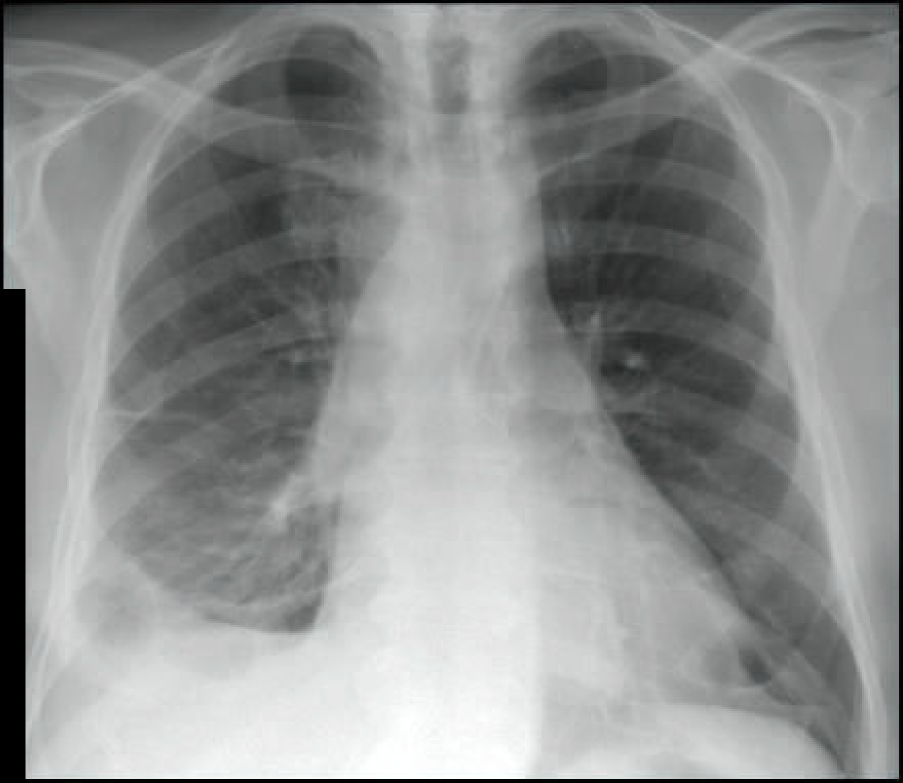
KM-Aufnahme in der Pleura
Schrumpfung des Hemithorax
Keine Aussage über Pleuraerguß
Luftsichel mit Spiegel

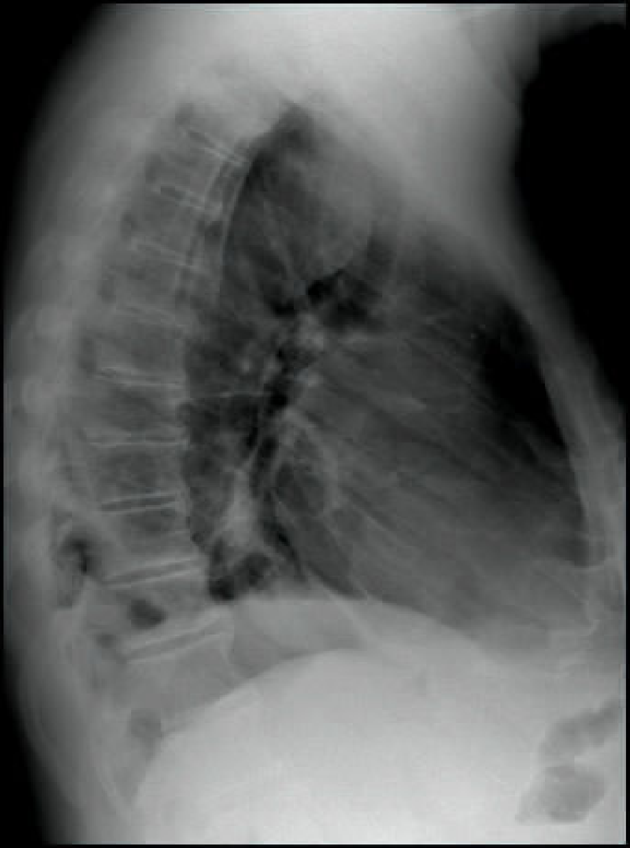

UKL-FRBG. THORAXCHIRURGIE
SIEMENS
15:49:15 Fr 27/06/2003
HEUER
ID:
/
MD:
ABD 3.5
0
35C40S 3.5
B/S 37s
Winkel 90d
Pos
DR 53dB
CL 5
FV 1
EV 43dB
SI 100 %
PP L
L
160
TB:Disk.
B:53/5/1/43/100
Z18
MI:0.6

Sonographie:
Thorax
bei spätem
Pleuraempyem

Pus

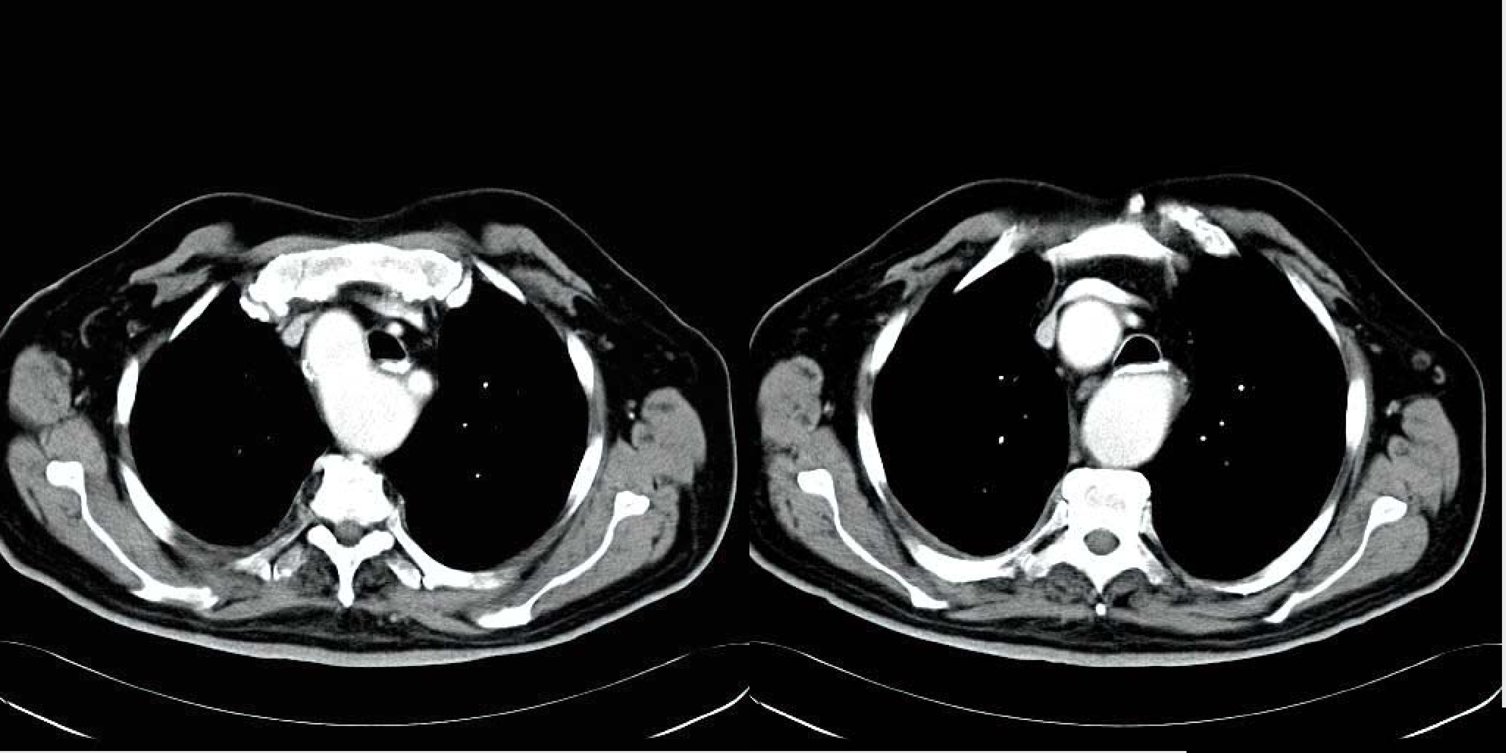
Achten Sie auf den Aortenbogen!





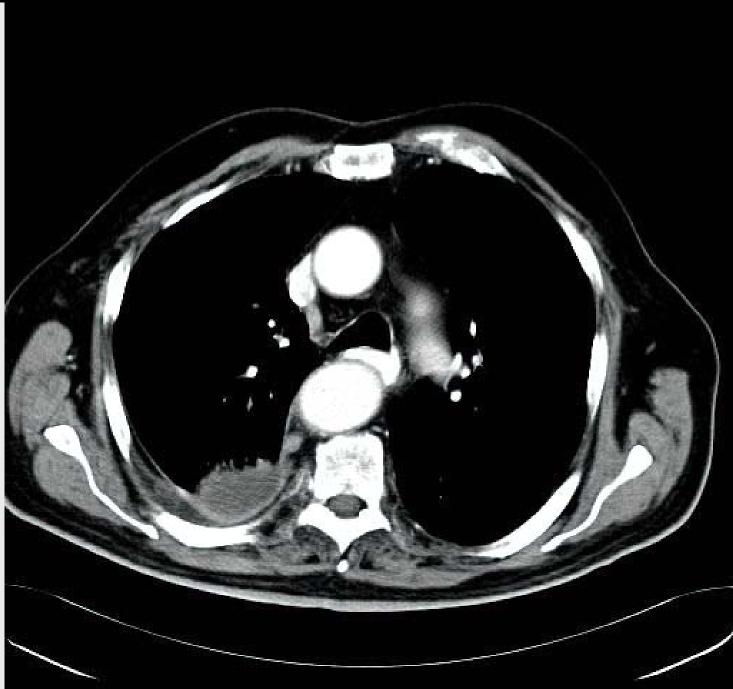
Z.n. nach komplizierter Gastrektomie
Pleuraempyem

nach Drainage



Z.n. nach komplizierter Gastrektomie, Pleuraempyem

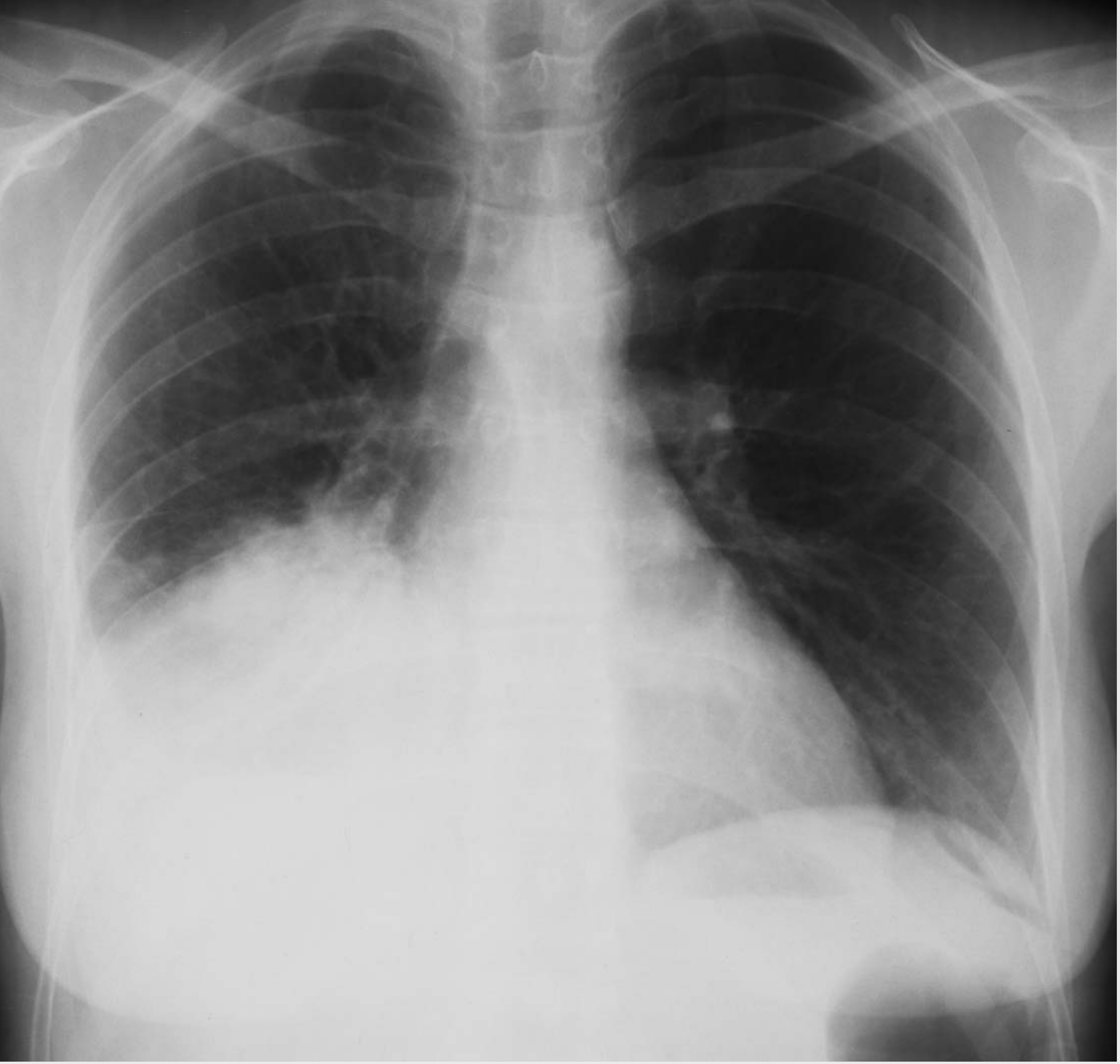
Aortenbogen?



Pleuraempyem: zweite Option

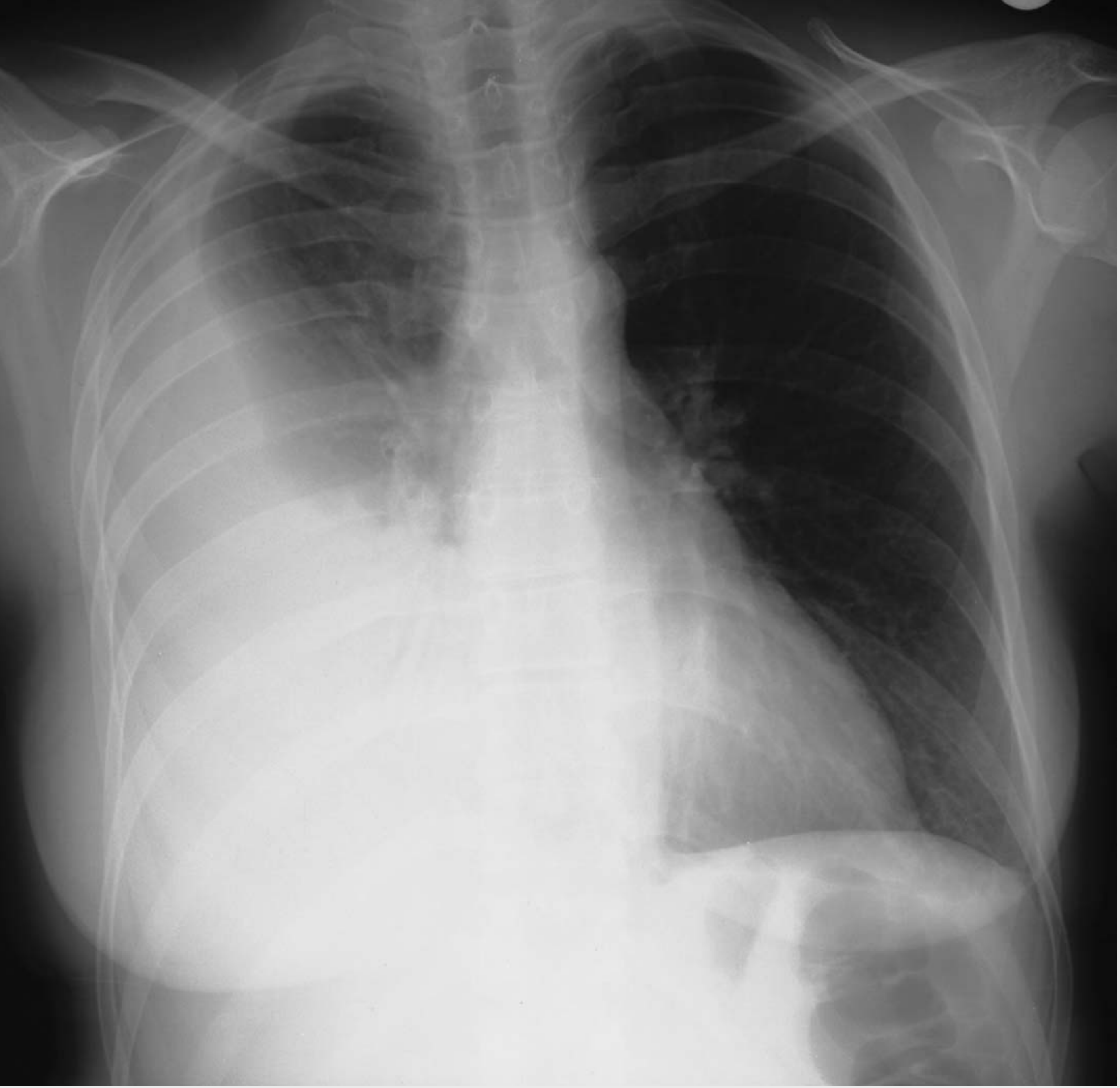
VATS

Videoassistierte Thorakoskopische Chirurgie



Pneumokokken-Pneumonie

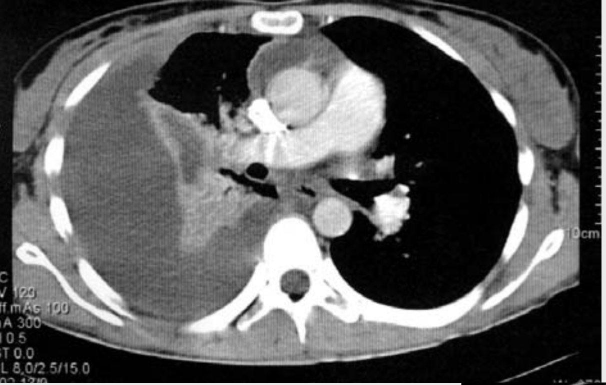
Röntgen-Thorax



Pneumokokken-Pneumonie

Röntgen-Thorax nach 7 Tagen

Ausgedehnter Pleuraerguß bei Pneumokokkenpneumonie
CT Thorax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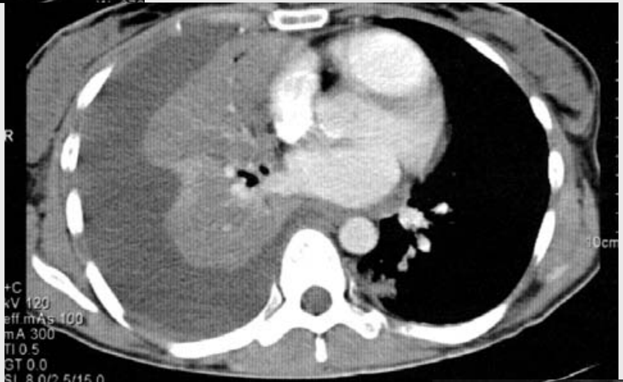
C
V 120
eff.mAs 100
mA 300
TI 0.5
GT 0.0
SL 8.0/2.5/15.0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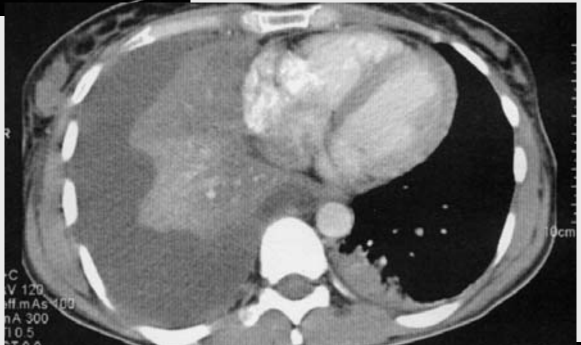
+C
kV 120
eff.mAs 100
mA 300
TI 0.5
GT 0.0
SL 8.0/2.5/15.0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+C
kV 120
eff.mAs 100
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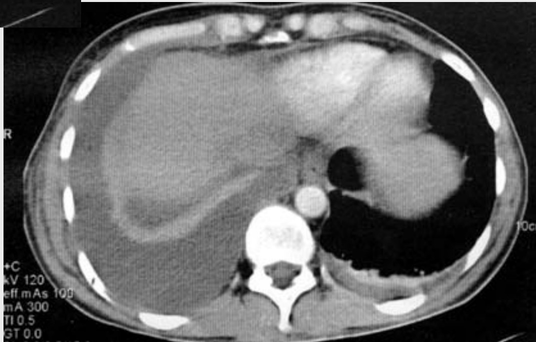
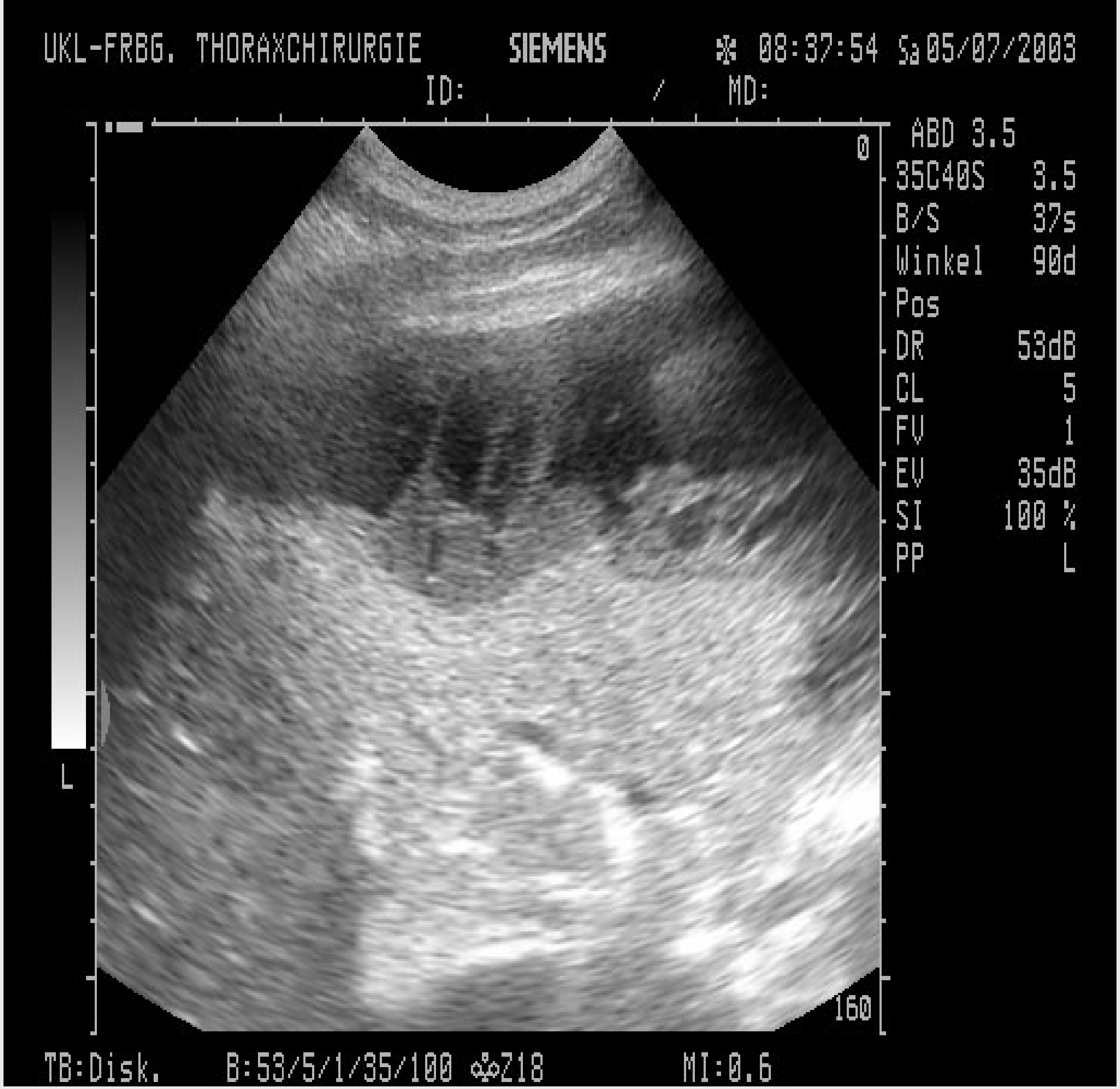
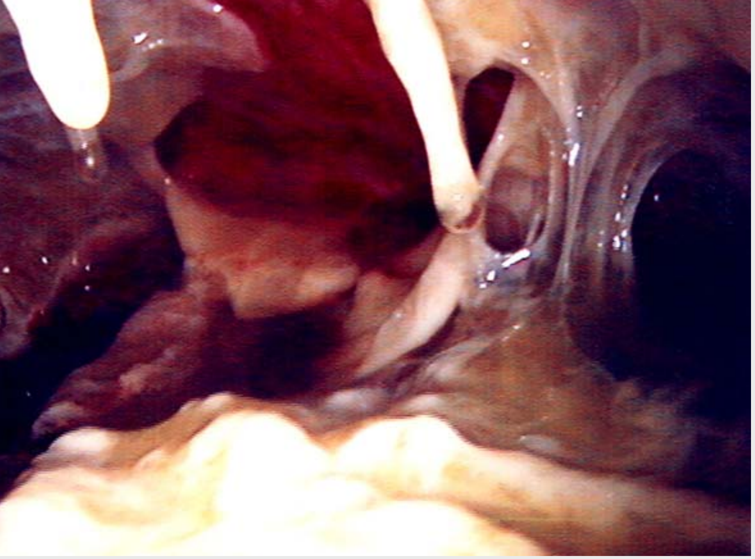
SL 8.0/2.5/15.0

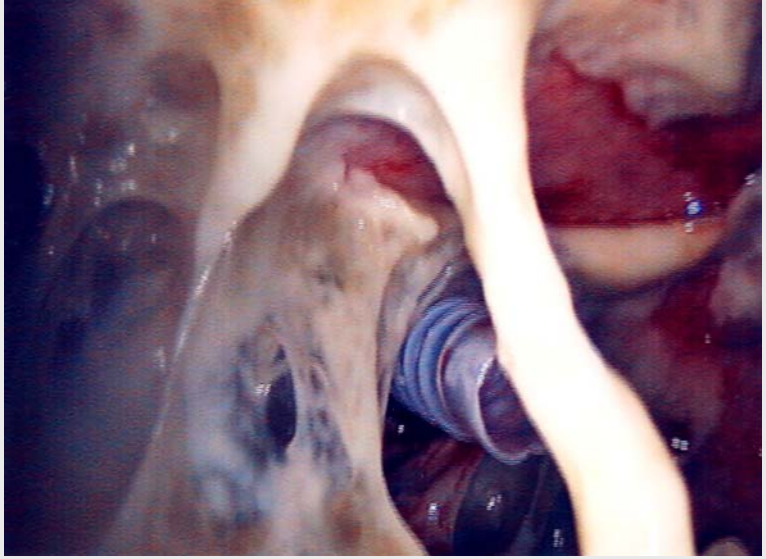

R
10c
+C
kV 120
eff.mAs 100
mA 300
TI 0.5
GT 0.0

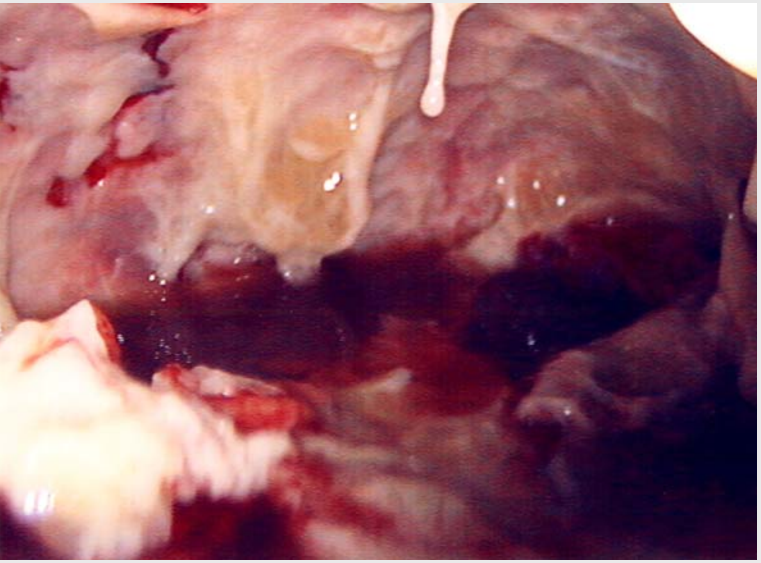
Kein KM-Aufnahme in der Pleura
Keine Schrumpfung des Hemithorax
Keine Aussage über Pleuraerguß

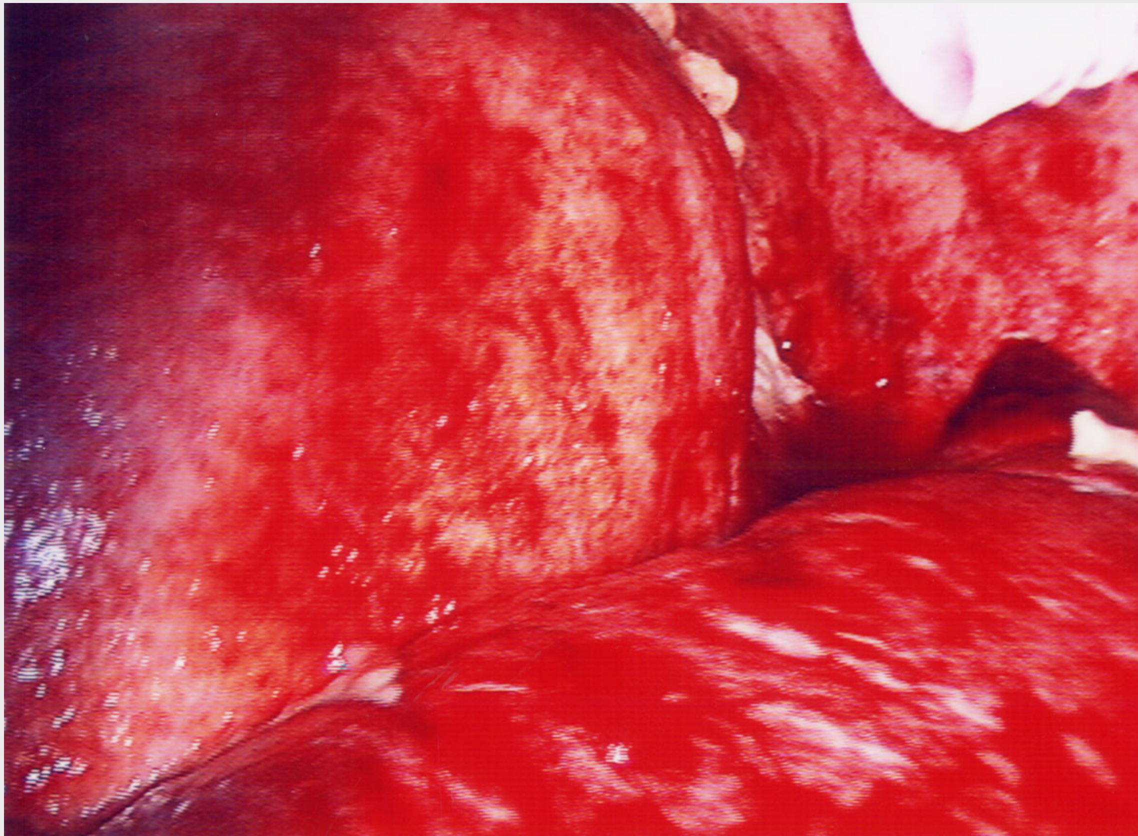

UKL-FRBG. THORAXCHIRURGIE
SIEMENS
08:37:54 Sa 05/07/2003
ID: /
MD:
ABD 3.5
0
35C40S 3.5
B/S 37s
Winkel 90d
Pos
DR 53dB
CL 5
FV 1
EV 35dB
SI 100 %
PP L
L
160
TB:Disk.
B:53/5/1/35/100
Z18
MI:0.6

Komplizierter Erguß bei Pneumokokkenpneumonie
Sonographie

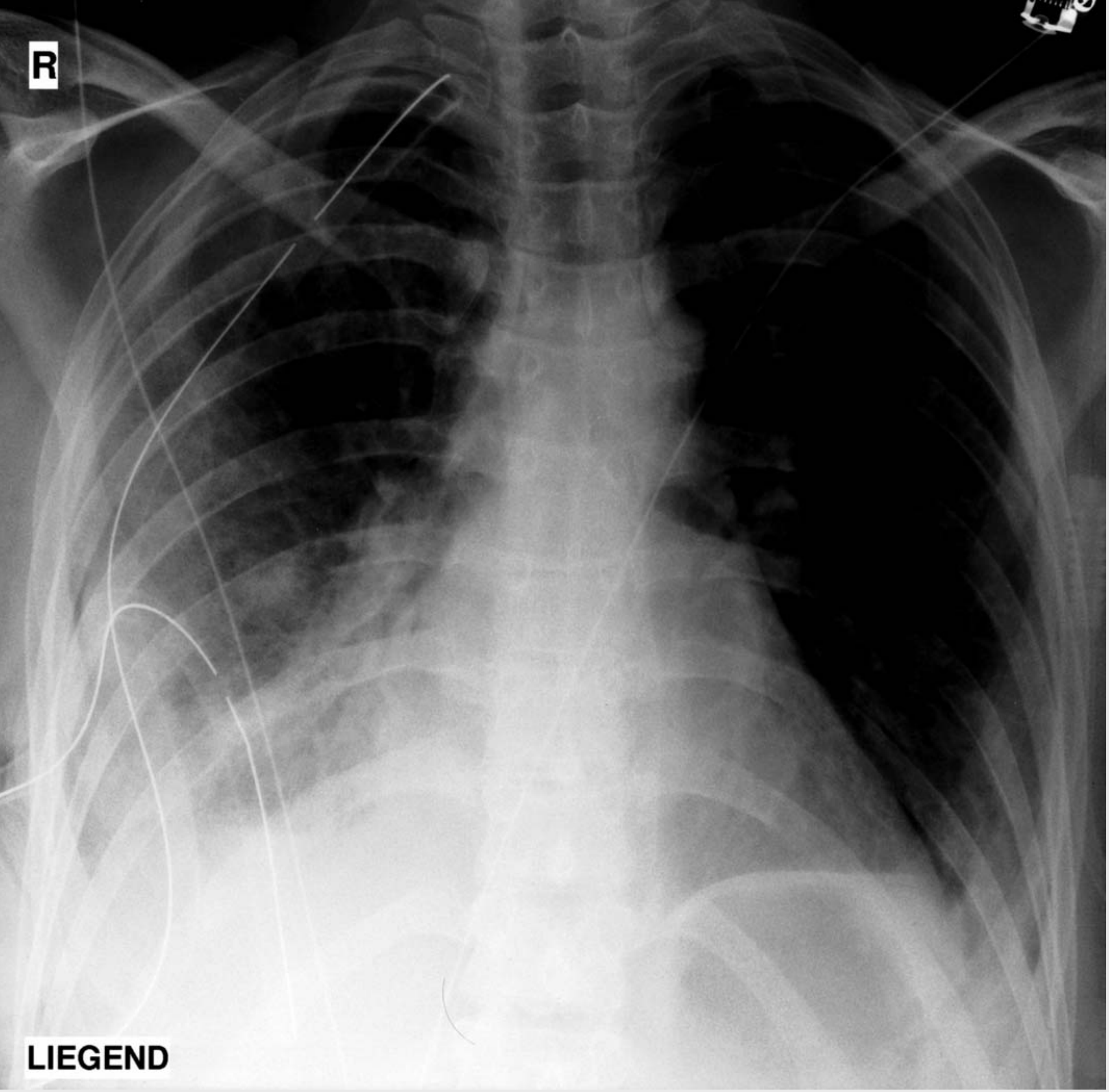








Akutes Pleuraempyem
intraoperativ: VATS



Röntgen-Thorax

Pleuraempyem nach VATS

Pneumonische Infiltrate

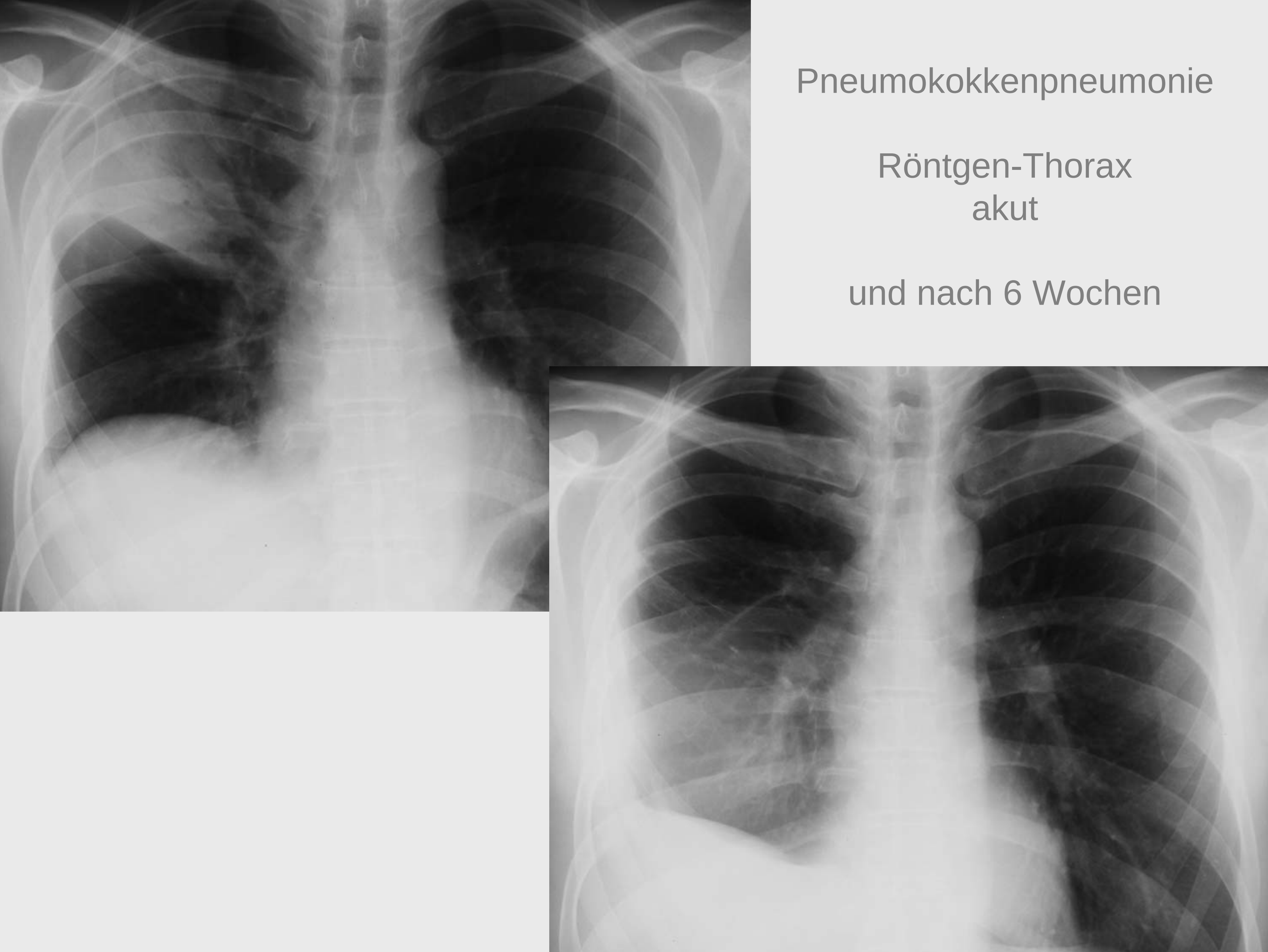
Pleuraempyem: dritte Option

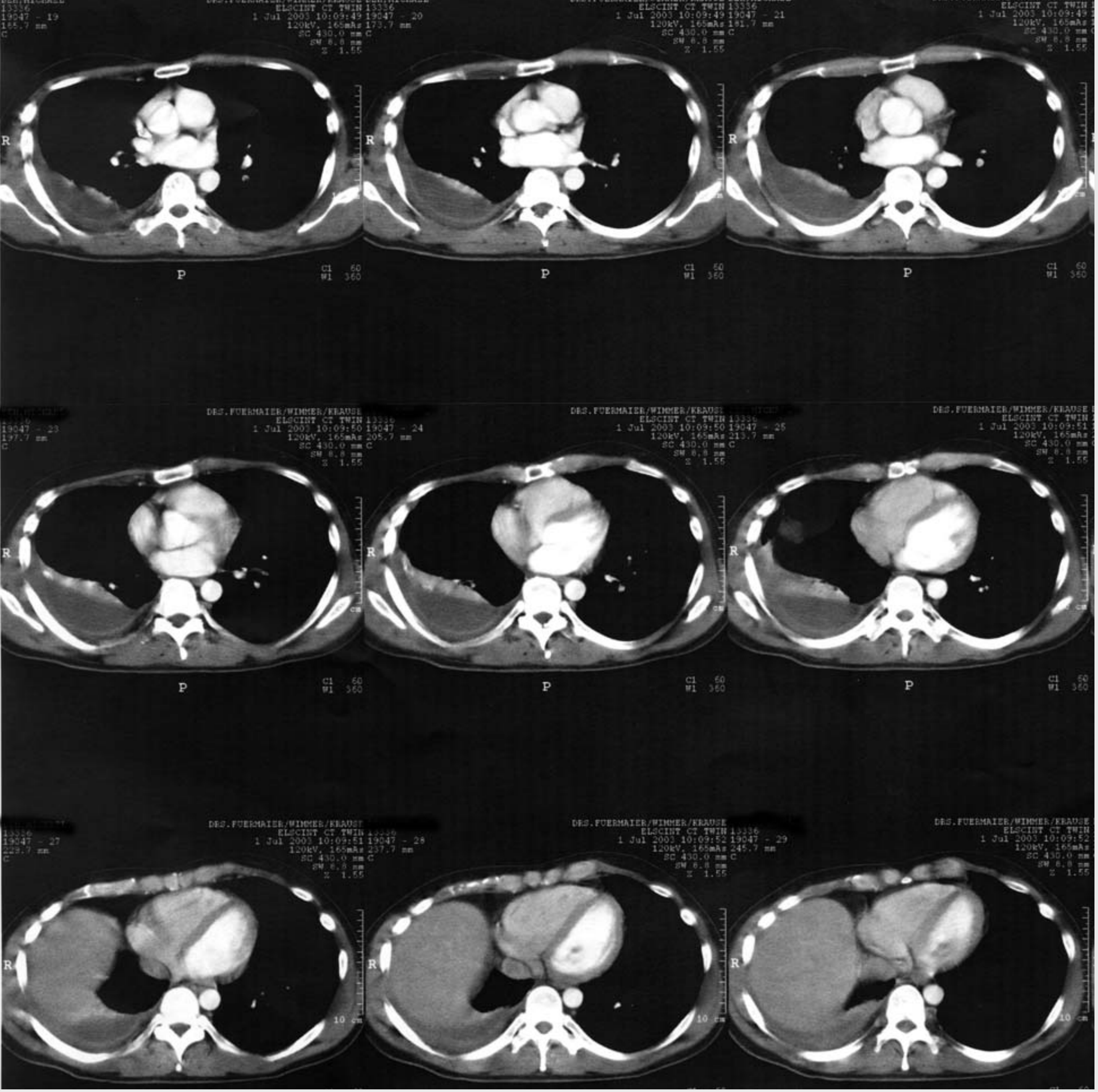
THORAKOTOMIE

Pneumokokkenpneumonie

Röntgen-Thorax
akut

und nach 6 Wochen

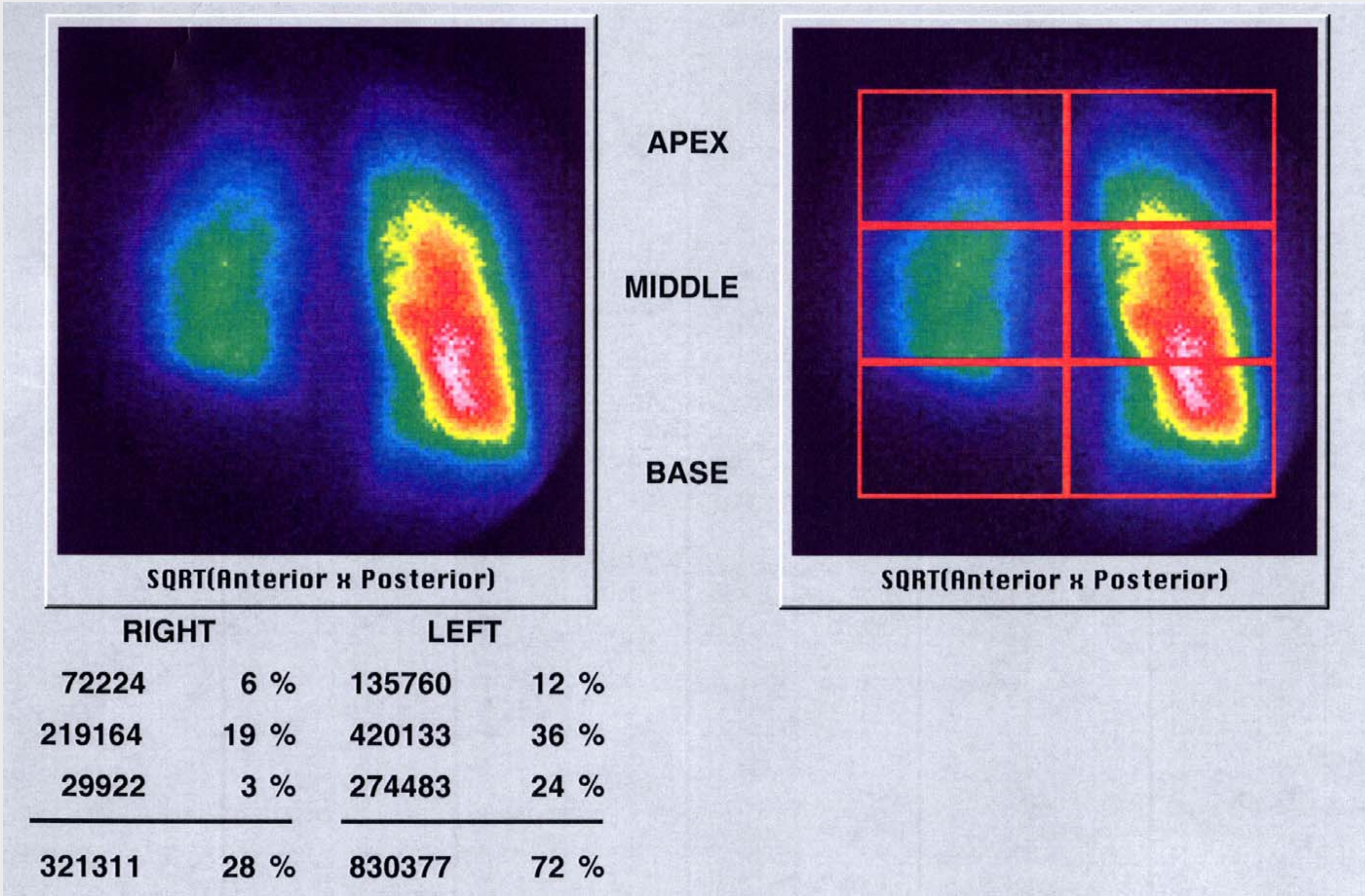




CT-Thorax

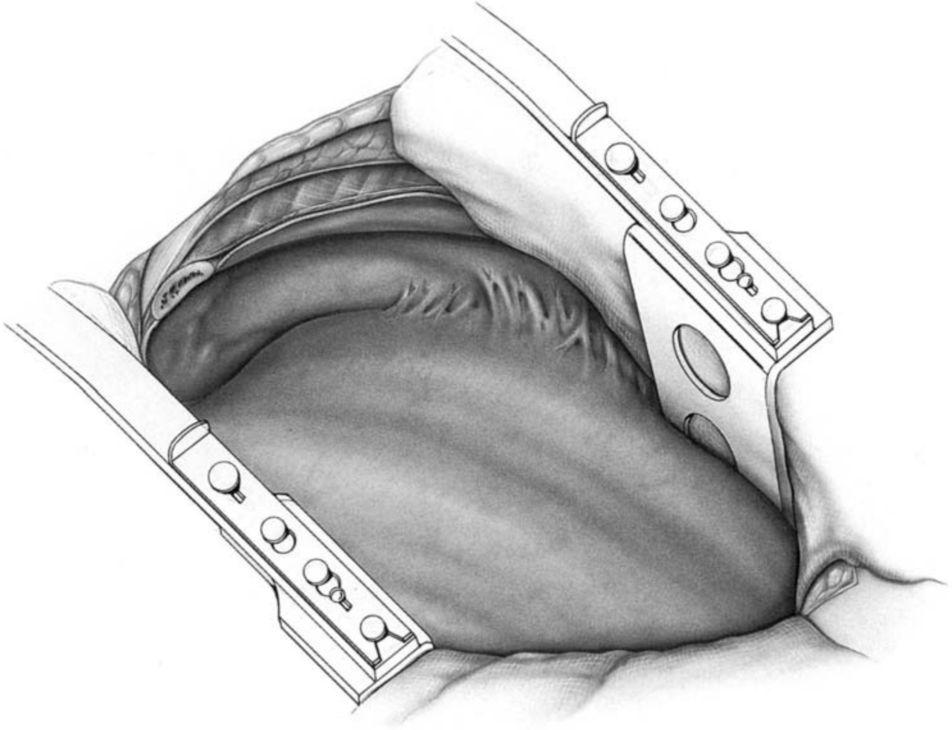
6 Wochen nach Pneumonie

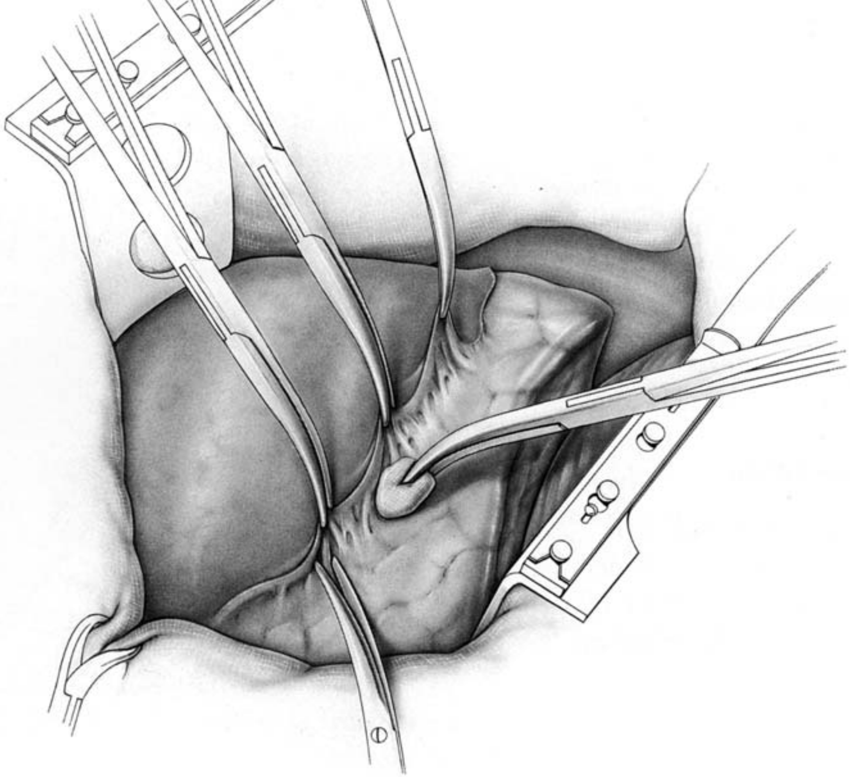
KM-Aufnahme in der Pleura
Schrumpfung des Hemithorax
Keine Aussage über Pleuraerguß

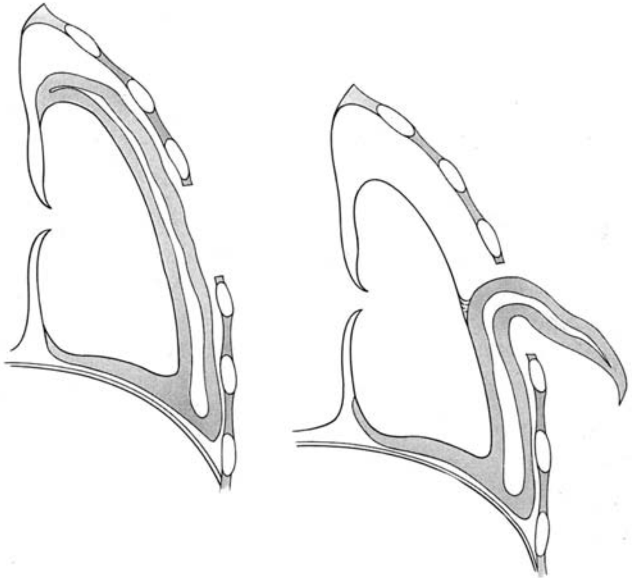

APEX
MIDDLE
BASE
SQRT(Anterior x Posterior)
SQRT(Anterior x Posterior)

RIGHT		LEFT	
72224	6 %	135760	12 %
219164	19 %	420133	36 %
29922	3 %	274483	24 %
321311	28 %	830377	72 %

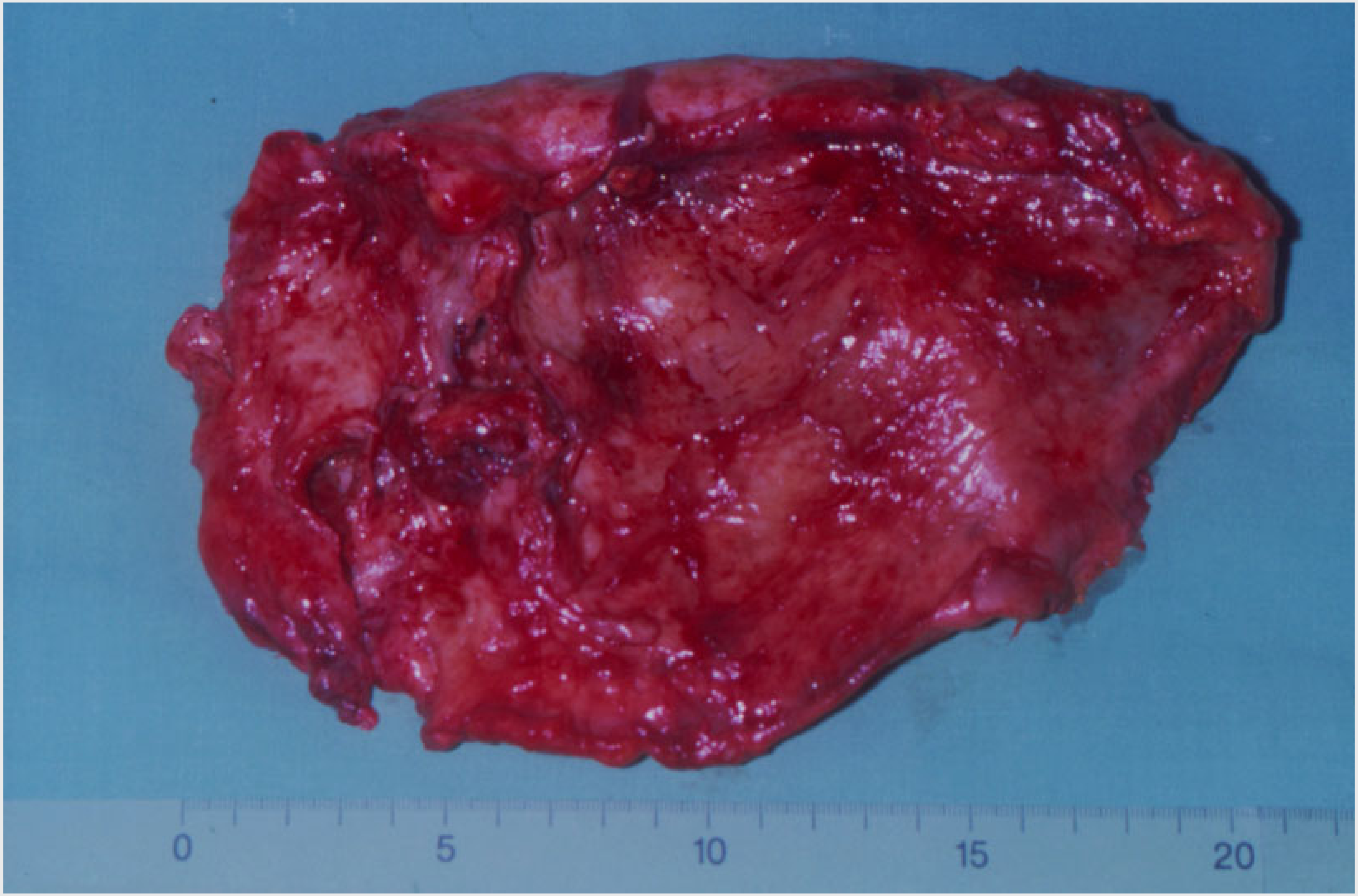
Perfusionsszintigramm bei Pleuraempyem



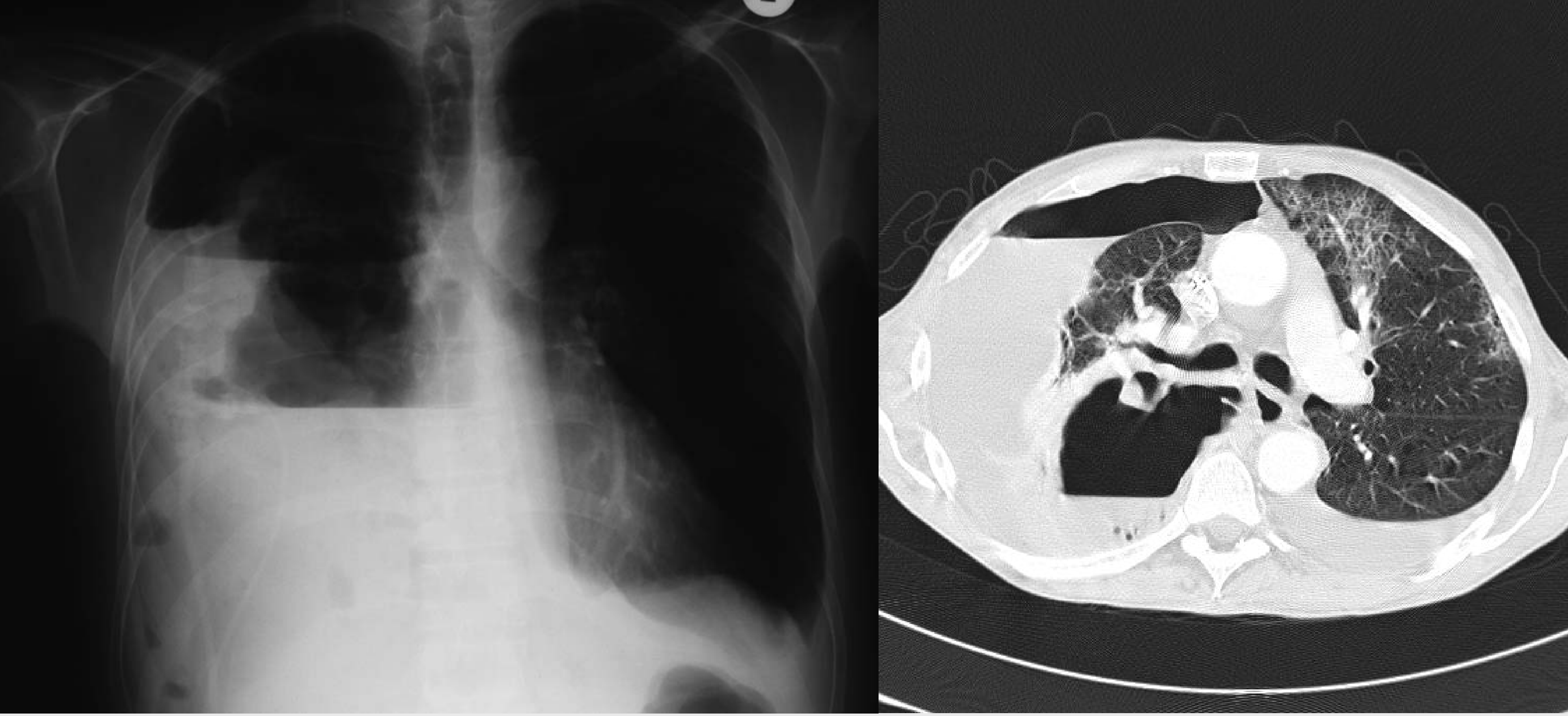




Parietale und viszerale Dekortikation

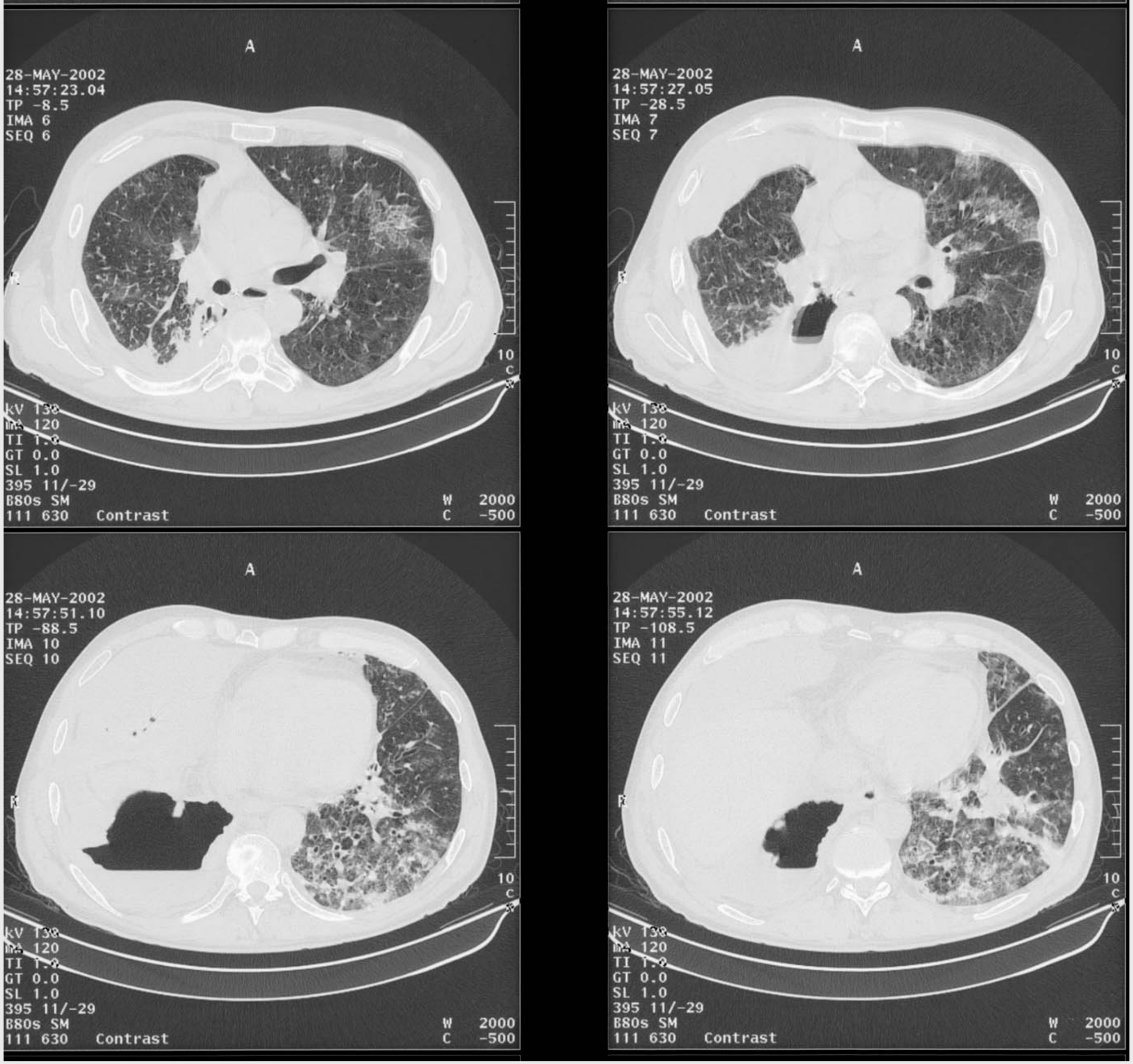


Pleura nach Dekortikation



Nekrotisierende Pneumonie rechter Unterlappen:

Indikation zur Dekortikation + Lobektomie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SL 1.0
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B80s SM
111 630 Contrast
W 2000
C -500
A
28-MAY-2002
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W 2000
C -500
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SL 1.0
395 11/-29
B80s SM
111 630 Contrast
W 2000
C -500

Pleuraempyem rechts nach Unterlappenresektion

Stumpfinsuffizienz

Kompliziertes Pleuraempyem

Bronchusstumpfinsuffizienz postop

Nach Pneumonektomie (früh oder spät)

Ösophagusperforation

Lungentumorperforation

Tuberkulöses Pleuraempyem

Posttraumatisch

Nach abdominellen Infektionen

etc.

Algorithmus

Komplizierter Pleuraerguß / Pleuraempyem

Parameter für die Indikation
- Zeitpunkt
- Entzündungsparameter Serum / Pleurapunktat
- CT + Sonographie
- Funktionelle Parameter

1: Thoraxdrainage +/- Varidase (max. 3 Tage?)

2: VATS oder Offene Dekortikation

Ziel:
Angemessene Therapie für ein schnelles
und funktionell gutes Ergebnis