Choc septique d'origine inattendue…

Séminaire de Pathologie Infectieuse

Jeudi 30 septembre 2004 à 12h30

Cliniques Universitaires Saint-Luc, Bruxelles

Prof. P.F. Laterre

Service des Soins Intensifs

Cliniques universitaires Saint-Luc, Bruxelles

S.M., 57 year male

- June 13, 02:20
  - ED for altered general condition (« not well »)
  - Fully oriented.
  - Abdominal discomfort and previous chills
  - PMH : Psoriasis ? (MP 4 mg/d)
  - Physical examination : normal but
  - HR 145, RR 28, Temp 37,4
  - and BP 72/50 mmHg

- Lab :
  - CRP 32 mg/dl, WBC 5,800/mm3, platelets 52,000/mm3, Creatinine 2 mg/dl, PT 17,1 sec and D-dimer 9278 mcg/ml
- ABG :
  - pH 7.50, PACO2 20 mmHg, PAO2 69 mmHg, BD 5.6 mmol/L Lactate 6 mmol/L
- Chest X-ray :
  - Unconclusive ? Infiltrate ?

Additional lab data

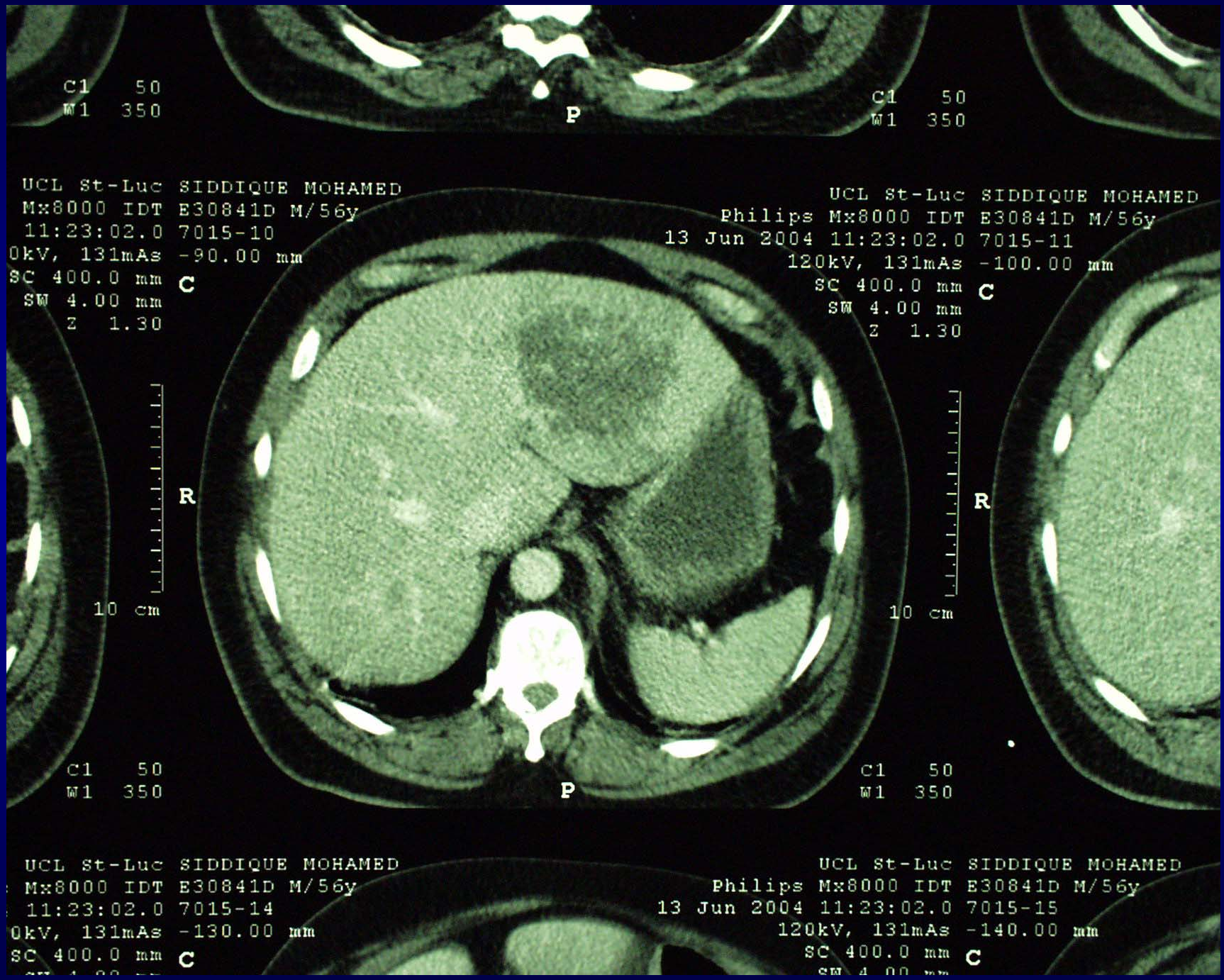
- Creatinine : 2 mg/dl

P : 0.6 mg/dl, Bilirubin 1.7 mg/dl

SGPT : 384 UI/L, LDH : 1138 UI/L

57 y (con'd)

- 02:20 BP 72/50
  - Colloids and fluids
- 03:15 Suspected Pneumonia
  - Amoxi-Clav 2 gr
- 02:20 to 06:00
  - 2500 ml Colloids and cristal.
  - 06:30 ; NA started (25 mcg/min)
- 08:00 ICU admission
  - NA 26.8 mcg'


C1 50
W1 350
P
C1 50
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UCL St-Luc SIDDIQUE MOHAMED
Mx8000 IDT E30841D M/56y
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0kV, 131mAs -90.00 mm
SC 400.0 mm
SW 4.00 mm
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UCL St-Luc SIDDIQUE MOHAMED
Philips Mx8000 IDT E30841D M/56y
13 Jun 2004 11:23:02.0 7015-11
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C1 50
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Philips Mx8000 IDT E30841D M/56y
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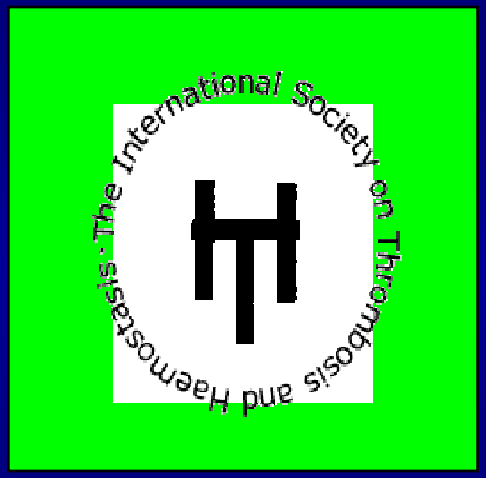
Concensual DIC score *(SSC/ISTH)*

- platelet count 0-2
- fibrin-related marker 0-3
- prolonged PT 0-2
- fibrinogen 0-1



≥ 5: “DIC”

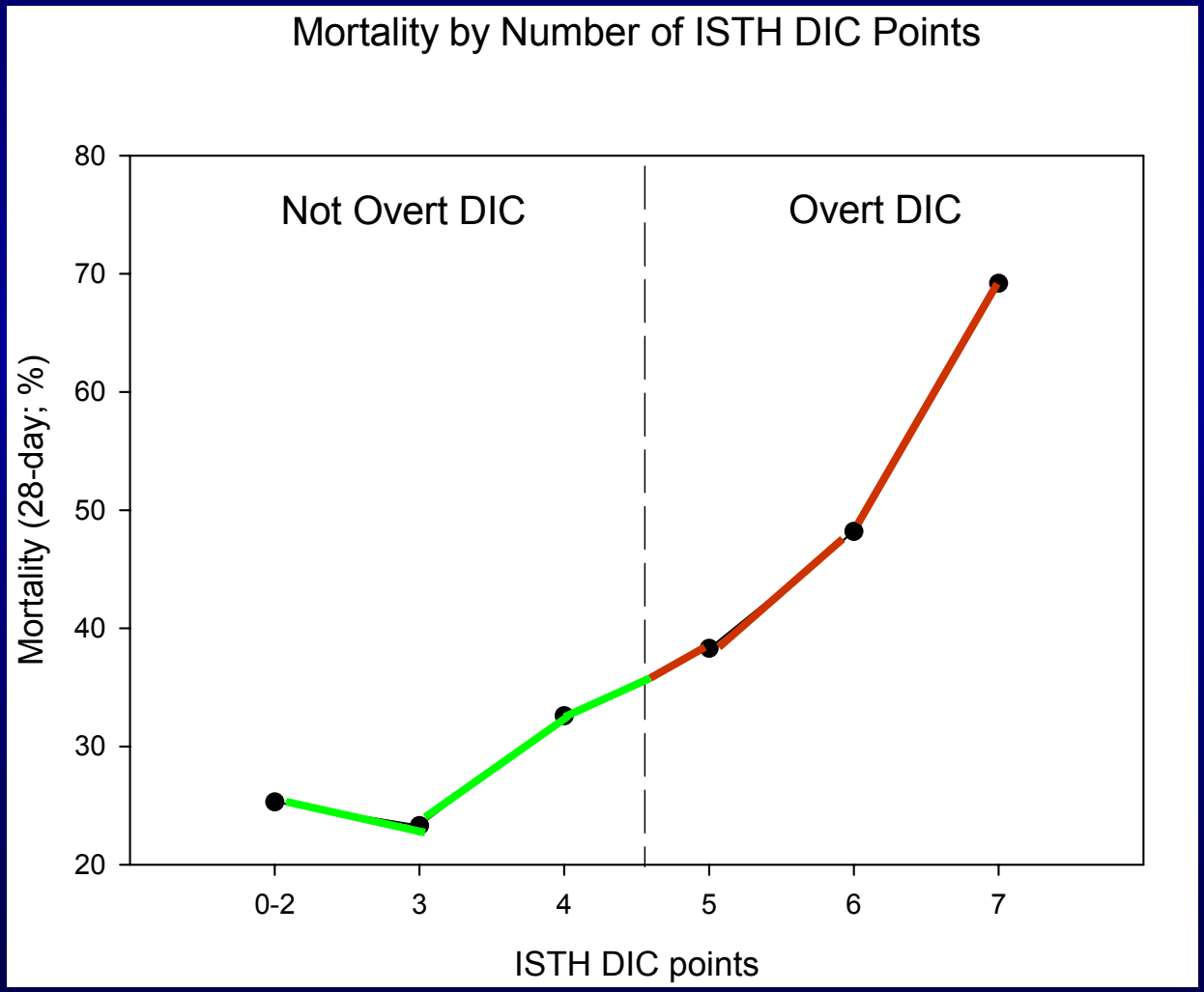
Thromb Haemostas 2001

*Modified ISTH Scoring System for DIC

Global coagulation tests	Score
Platelets counts (10^9/L)	
< 50	2
< 100	1
≥ 100	0
D-dimer levels (μg/ml)	
> 4	3
> 0.39	2
≤ 0.39 (upper limit of normal)	0
Prothrombin time (seconds)	
> 20.5	2
> 17.5	1
≤ 17.5 (14.5 as upper limit of normal)	0
Overt DIC status requires total score	≥ 5

***platelet counts < 30,000 10^9/L were excluded from PROWESS**
No fibrinogen was collected in PROWESS
D-dimer was substituted for fibrin degradation products (FDP)

Over DIC and 28-day mortality



mortality overt DIC: 43%

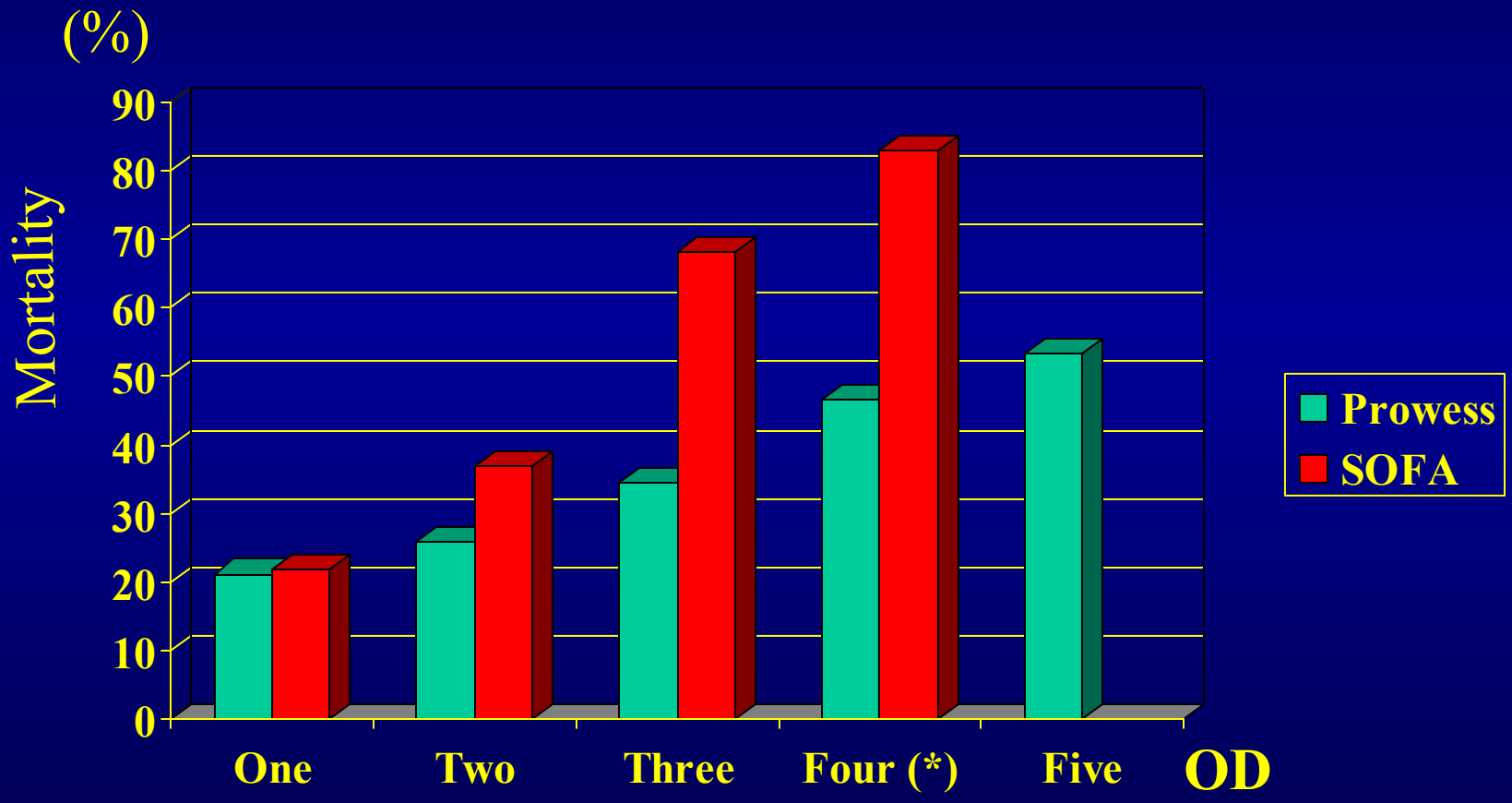
mortality no DIC 27%

DIC score and mortality

- DIC score is a significant and independent predictor of mortality

- for each DIC point: odds ratio for mortality 1.29
- for each APACHE point: odds ratio for mortality 1.07
- for each year of age: odds ratio for mortality 1.03

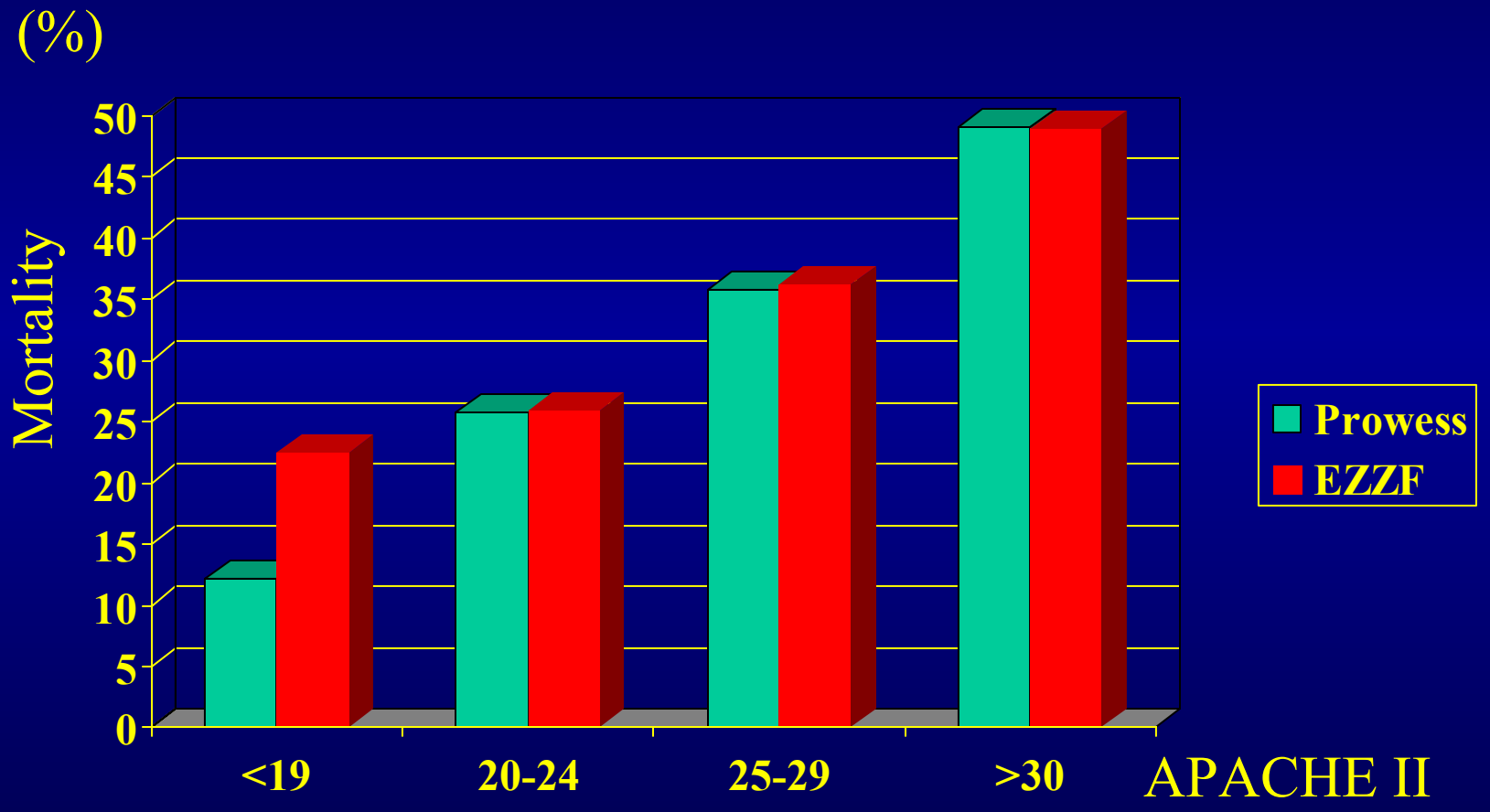
Severe Sepsis-associated mortality and number of Organ Dysfunction



SOFA: *Vincent, CCM 1998.* (*) Four and Five for SOFA

APACHE II and 28-day mortality

Placebo-treated patients in Sepsis studies



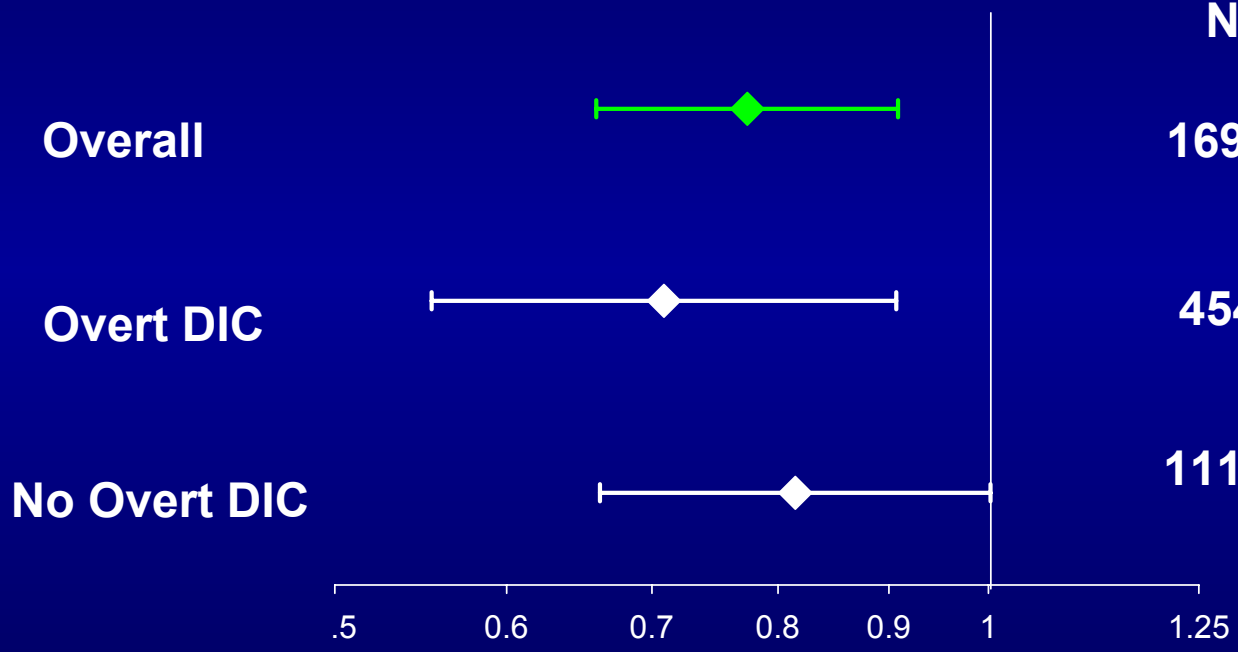
S.M. 57 y (con'd)

- Liver abscess : can not be drained
- Antimicrobials had been given 50 min after admission
- Fluids : > 3,000 ml
- Steroids : hydrocortisone within 4 hours
- Hypotension sustained (NA)
- Lactate : from 6 mmol/L to 7.8 mmol/L
- Creatinine : 2 mg/dl to 2.9 mg/dl (17:00)
- DIC : Platelets down to 42,000/mm3, PT : 19 sec, D-dimer 9,278 mcg/ml
- Xigris ?

Steroids low doses?

- Bollaert et al. *CCM 1998;26:645-50*
- Briegel et al. *CCM 1999;27:723-32*
- Annane et al. *CCM 2001;28:A46 - JAMA 2002*
  - *N = 299 Refractory septic shock (randomized, placebo-controlled, double-blind, multicenter)*
  - *ACTH short test*
  - *Treated with 50mg/6h Hydrocortisone 7 days*
  - **Results** :
    - All patients : (RR 95% CI) 0.712 (p = 0.029)
    - Responders (n=70) 0.696 (p = 0.303)
    - Non respon. (n=229) 0.670 (p = 0.023)
- Corticus : randomized, controlled, double-blind (n = 800) ?

PROWESS: Mortality by ISTH Overt DIC Status



	N	Drotrecogin Alfa (activated)	Placebo
Overall	1690	24.7%	30.8%
Overt DIC	454	30.5%	43.0%
No Overt DIC	1114	22.1%	27.1%

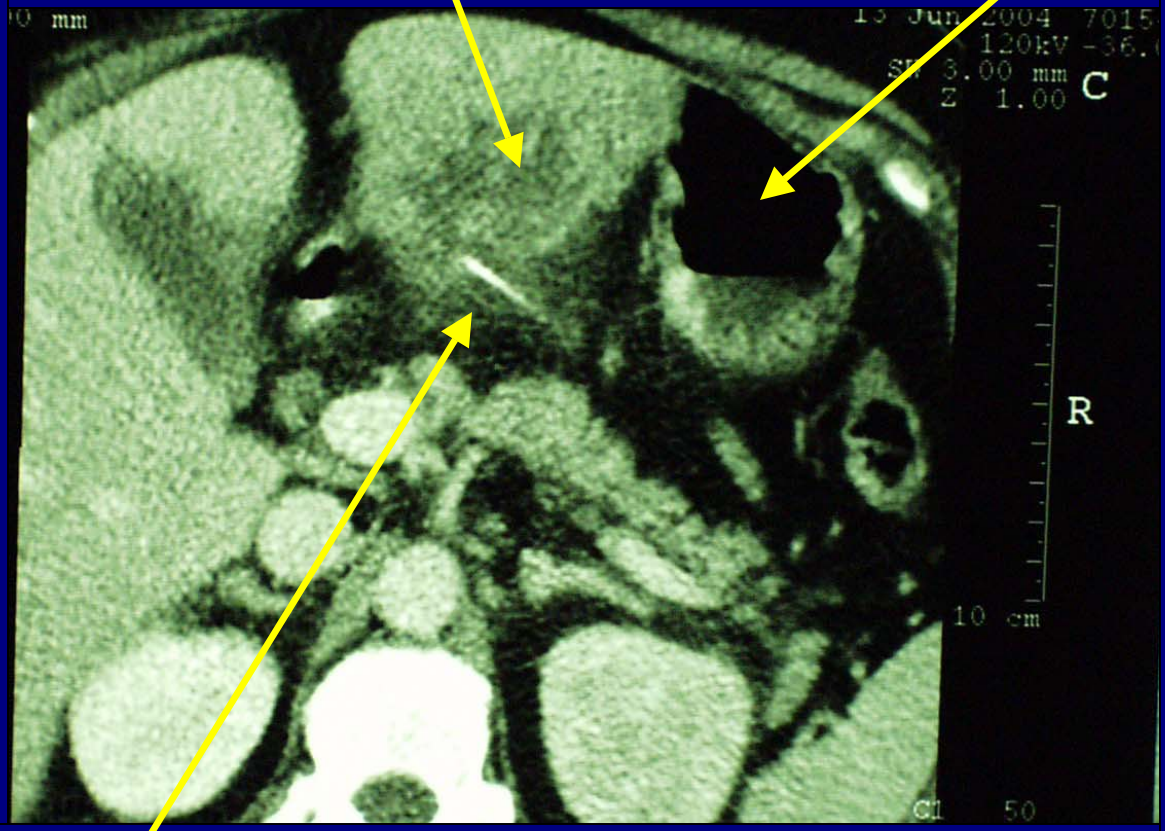
Relative Risk of Death (Point Estimate and 95% CI)

57 y (con'd)

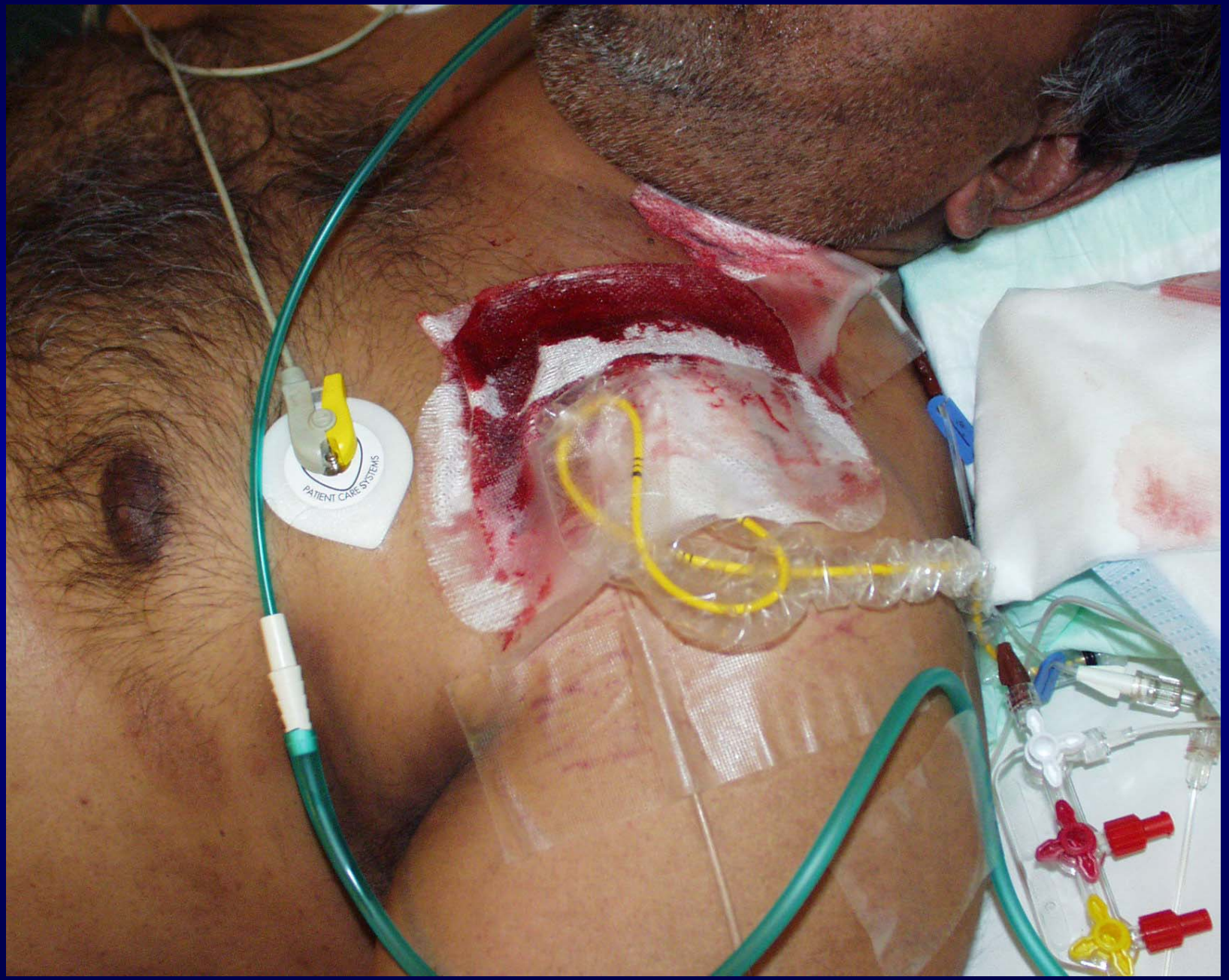
- Day 2 :
  - Noradrenaline reduced
  - Diuresis restored
  - Blood lactate reduced
  - Persisting overt DIC
  - Recurrent chills…
- Gastroscopy
- Blood culture : Streptococcus « G », Strep. sanguis

Liver Abscess

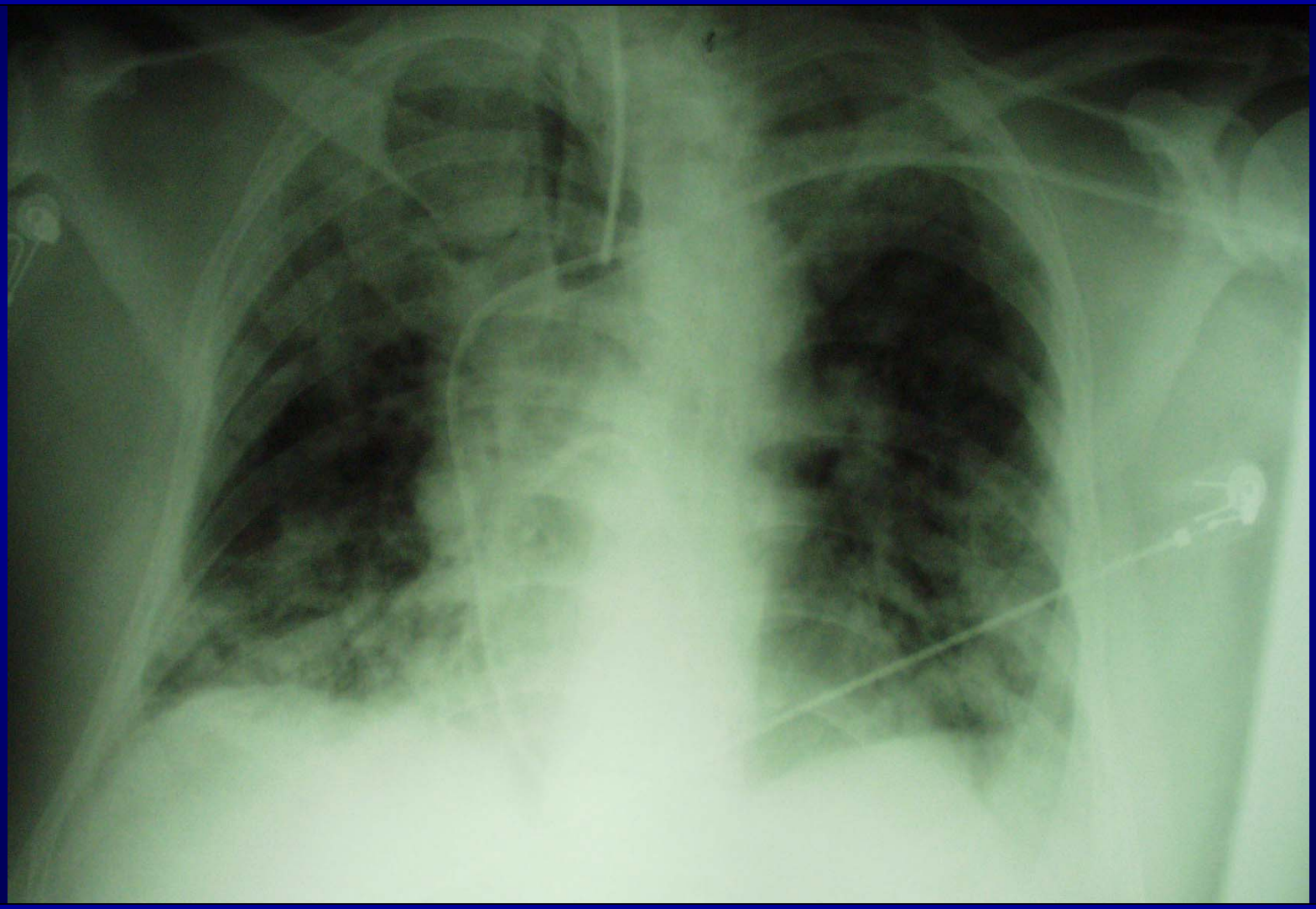
Stomach



Forgein body ?

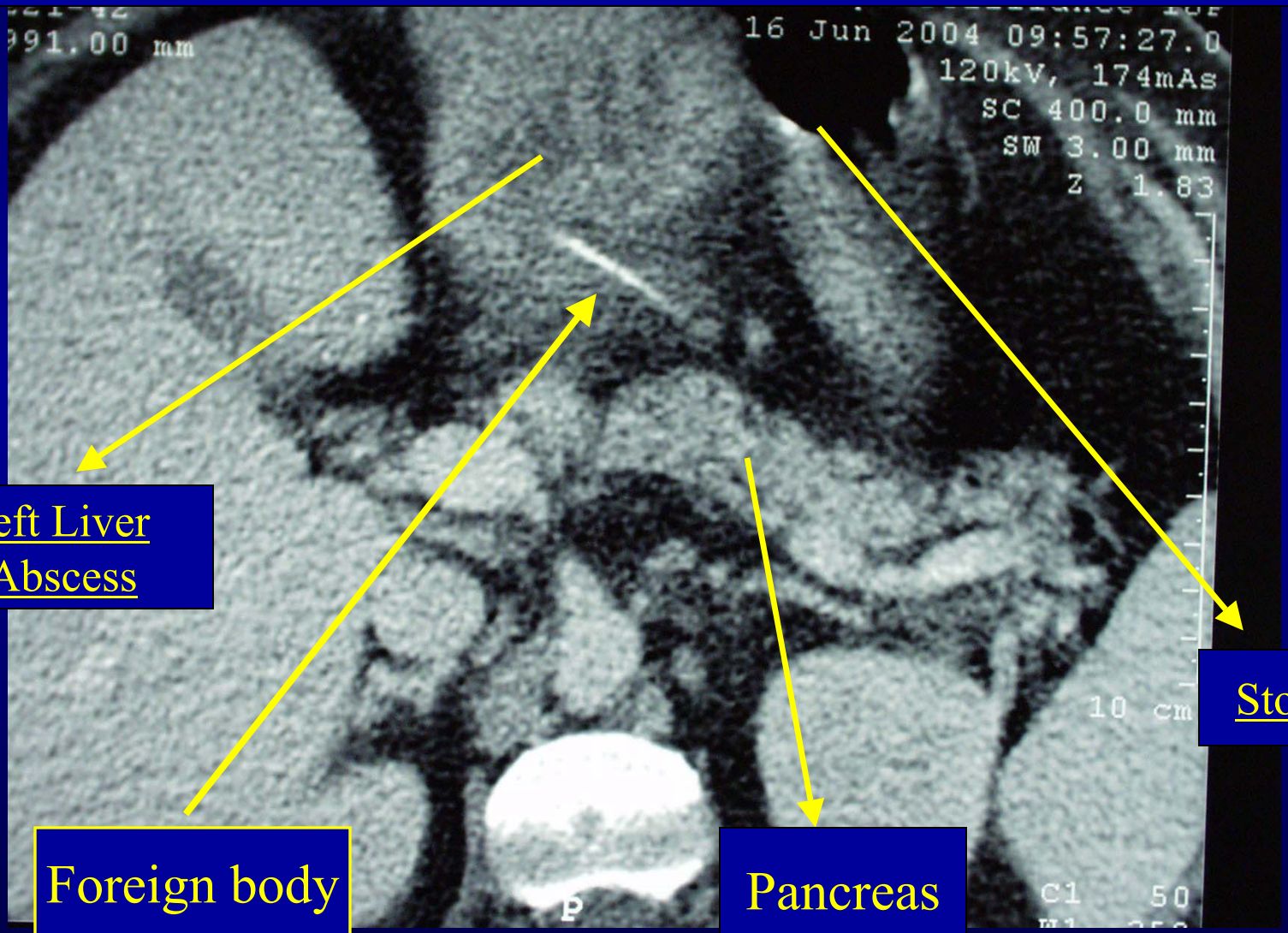

PATIENT CARE SYSTEMS

Day 2 (post gastroscopy) (PAO2/FiO2 : 220 mmHg-ALI)



Blood cultures (admission) : Streptococcus « G »

Abdominal CT Scan Day 3

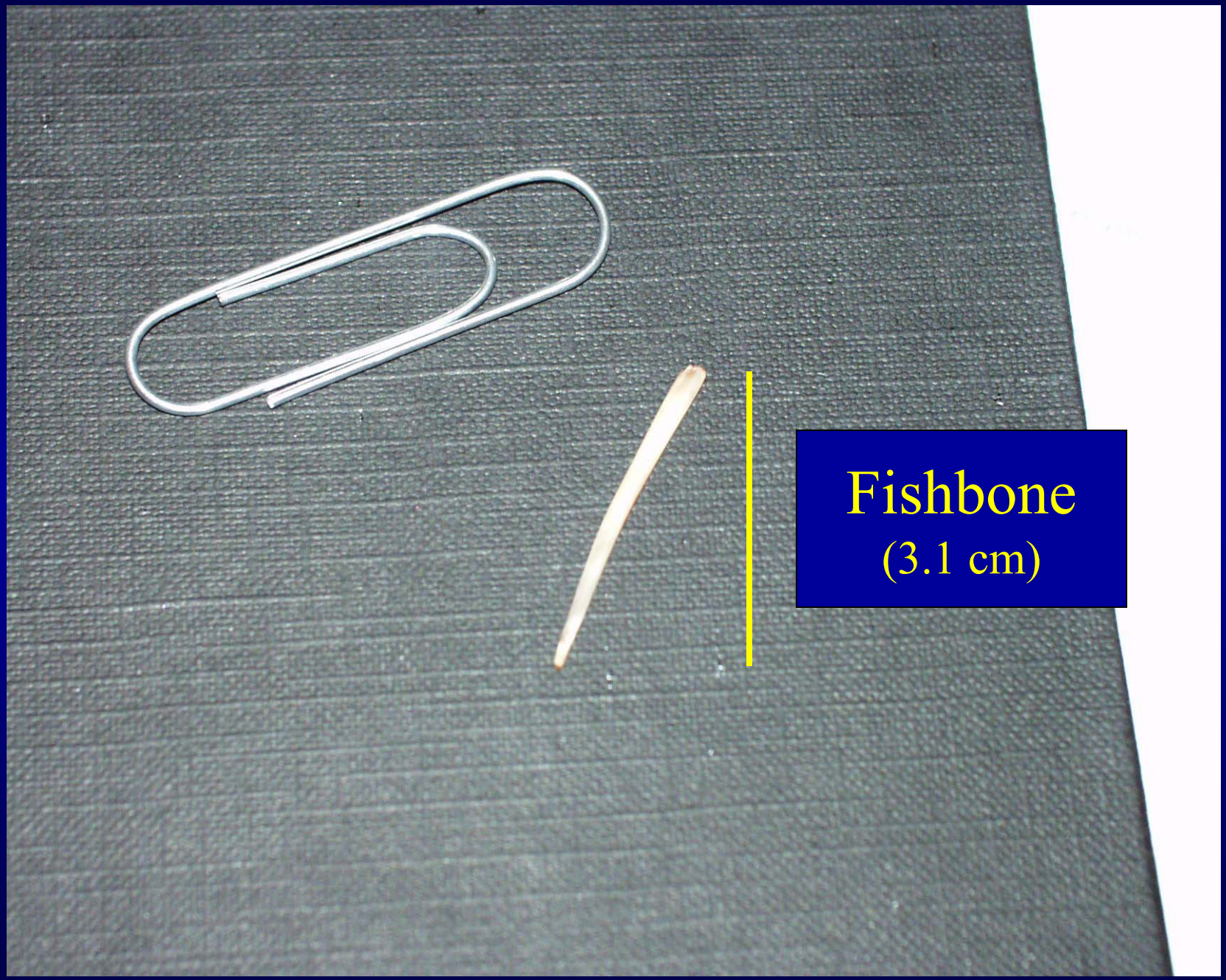


Left Liver Abscess

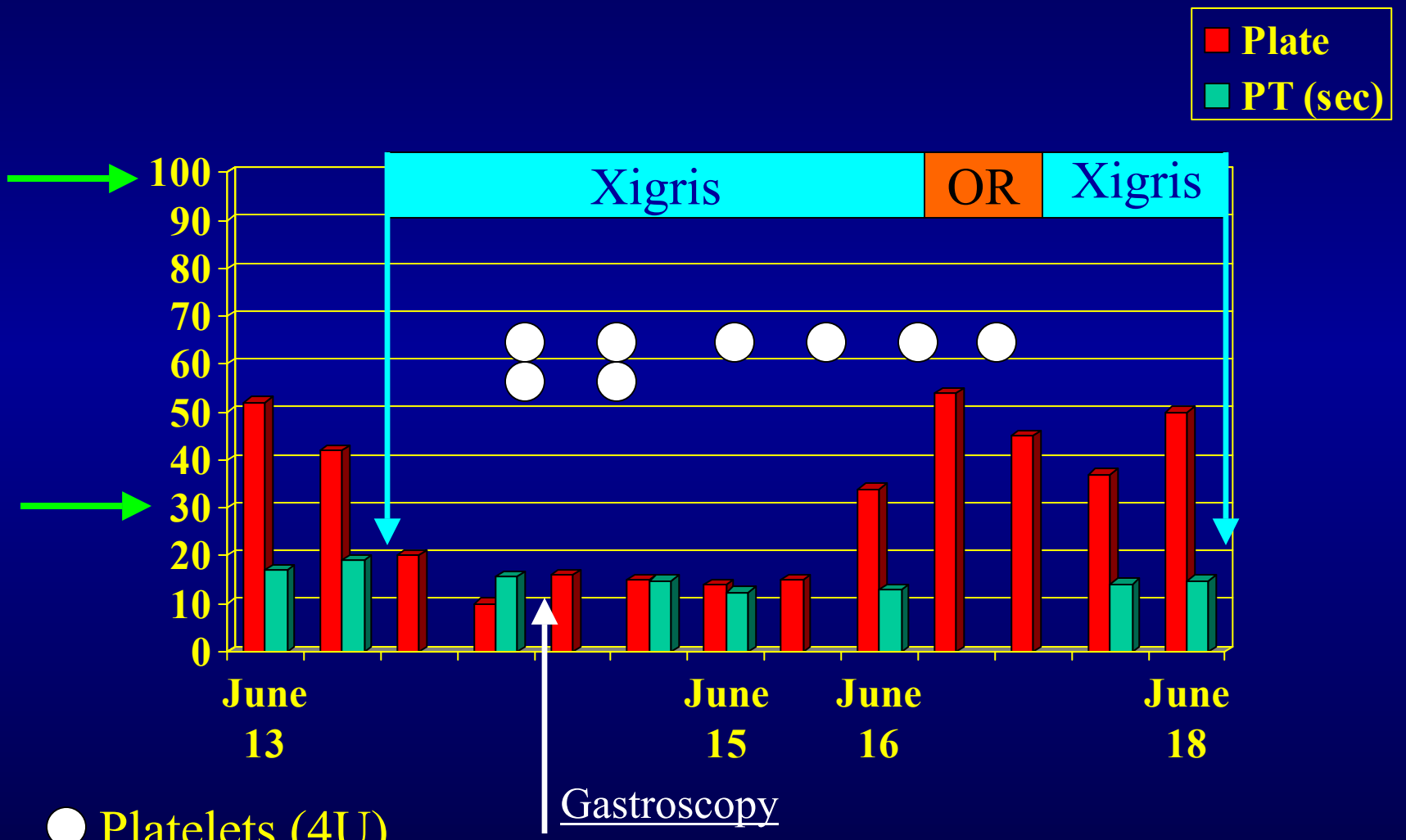
Foreign body

Pancreas

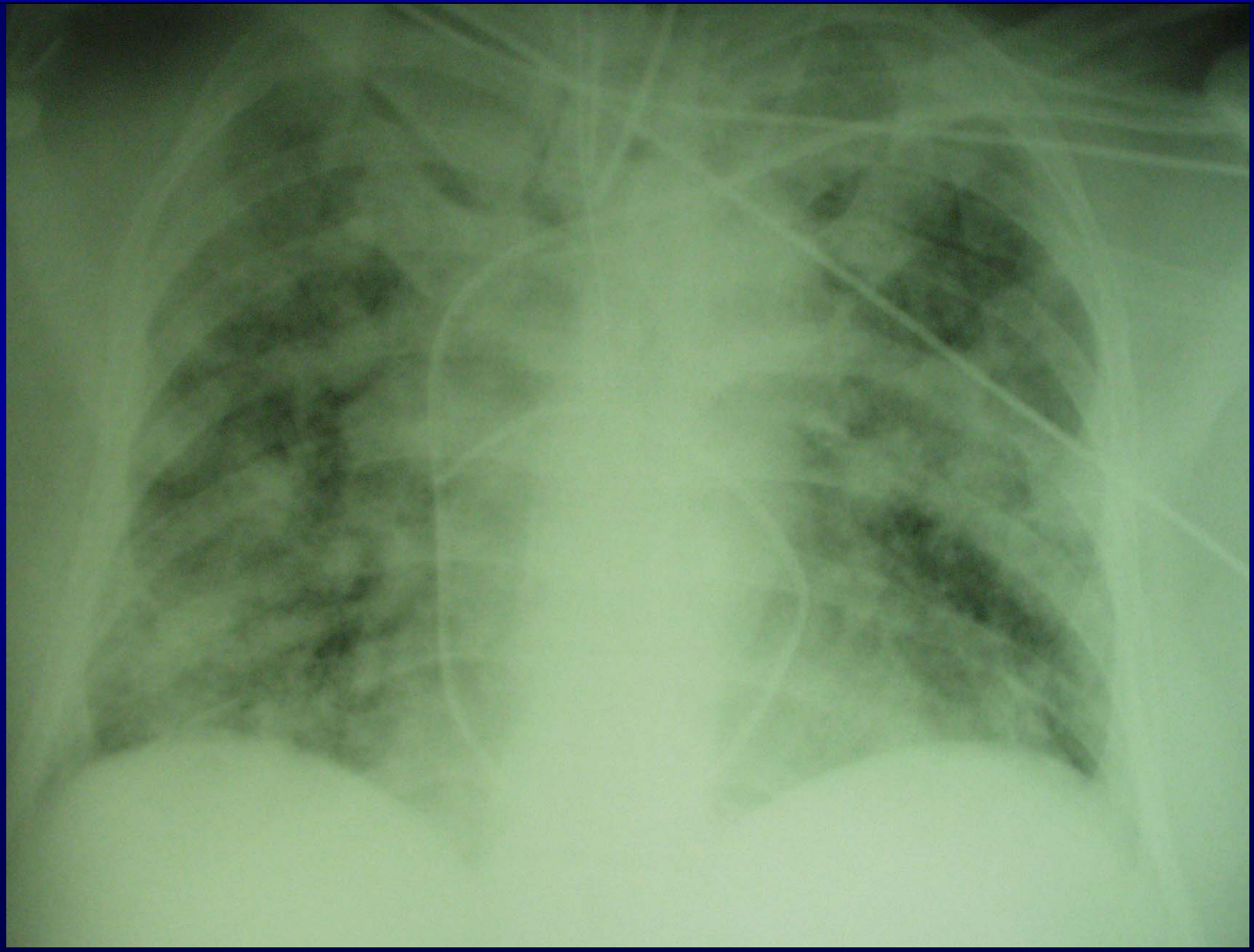
Stomach

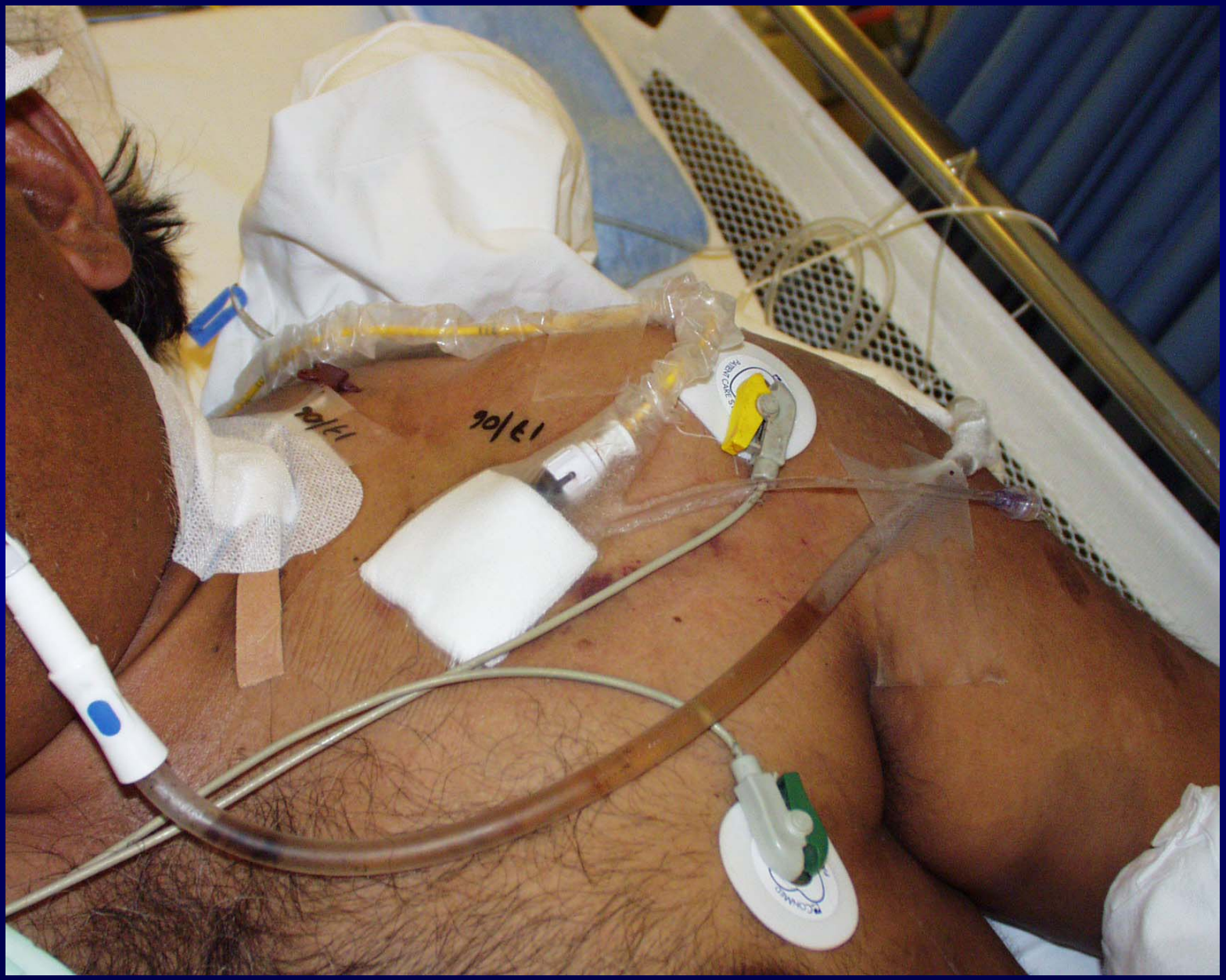

Fishbone
(3.1 cm)

Coagulation parameters over time



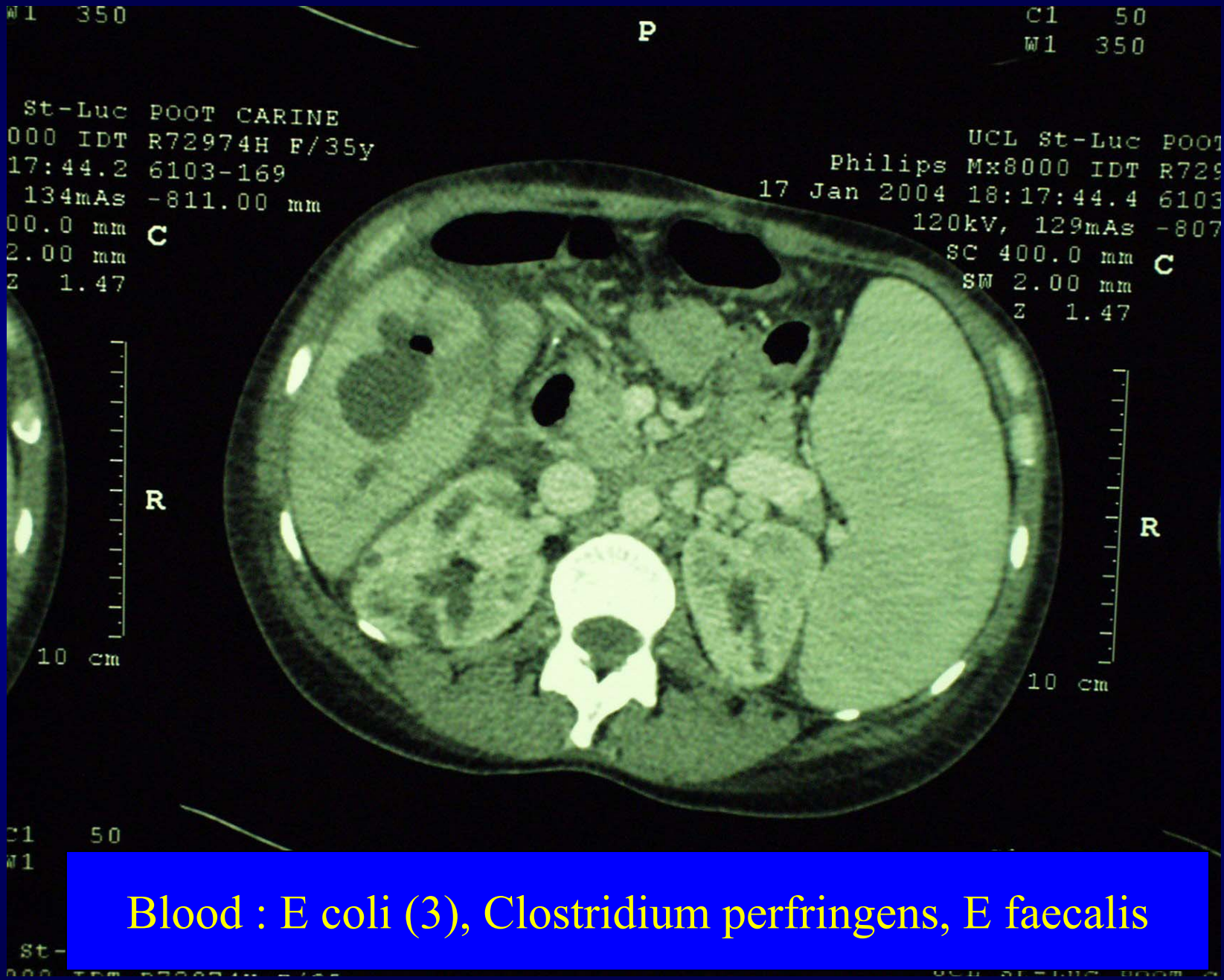
Day 3 (post laparotomy) (PAO2/FiO2: 147 mmHg-ARDS)





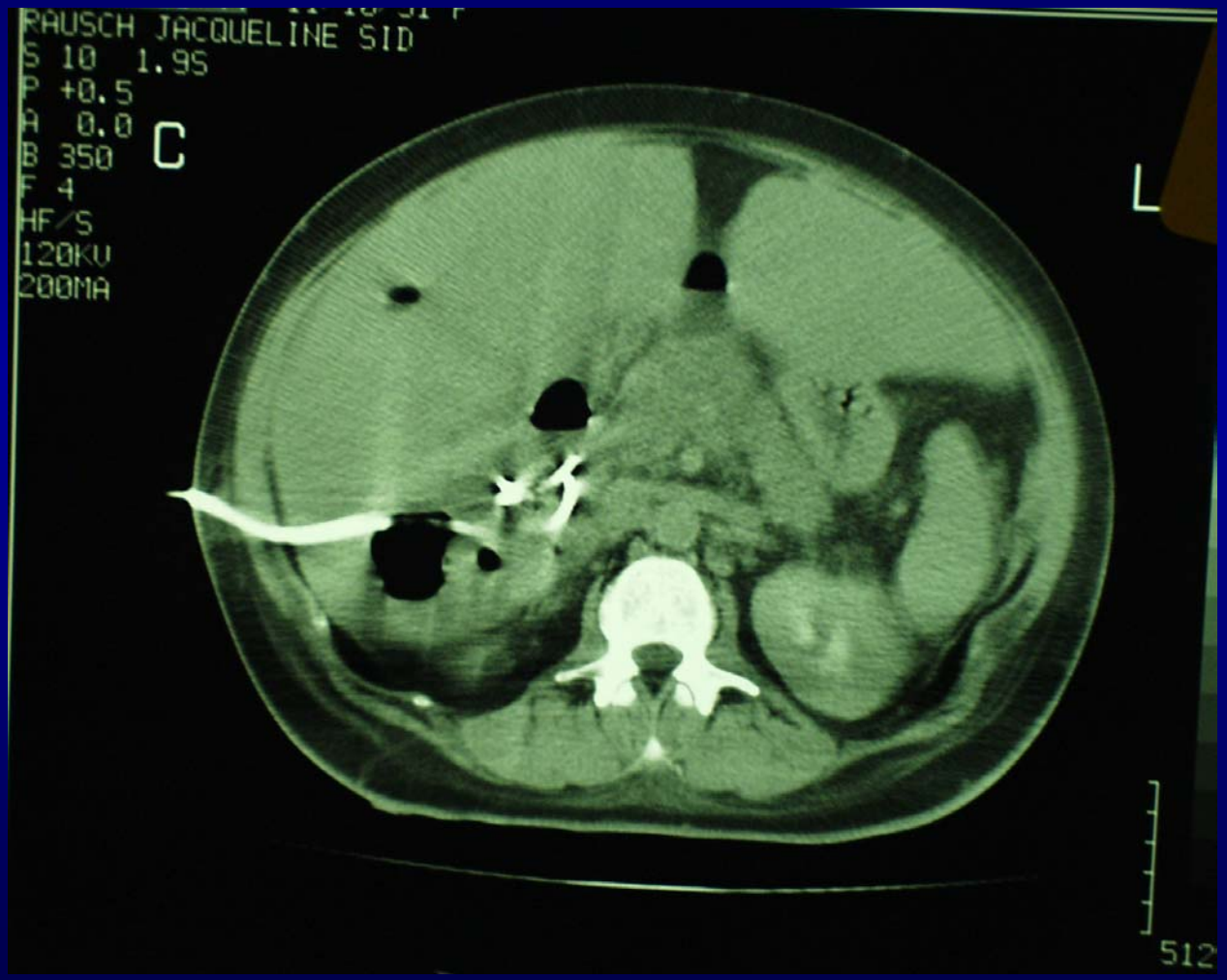
Liver Abscess : associated conditions

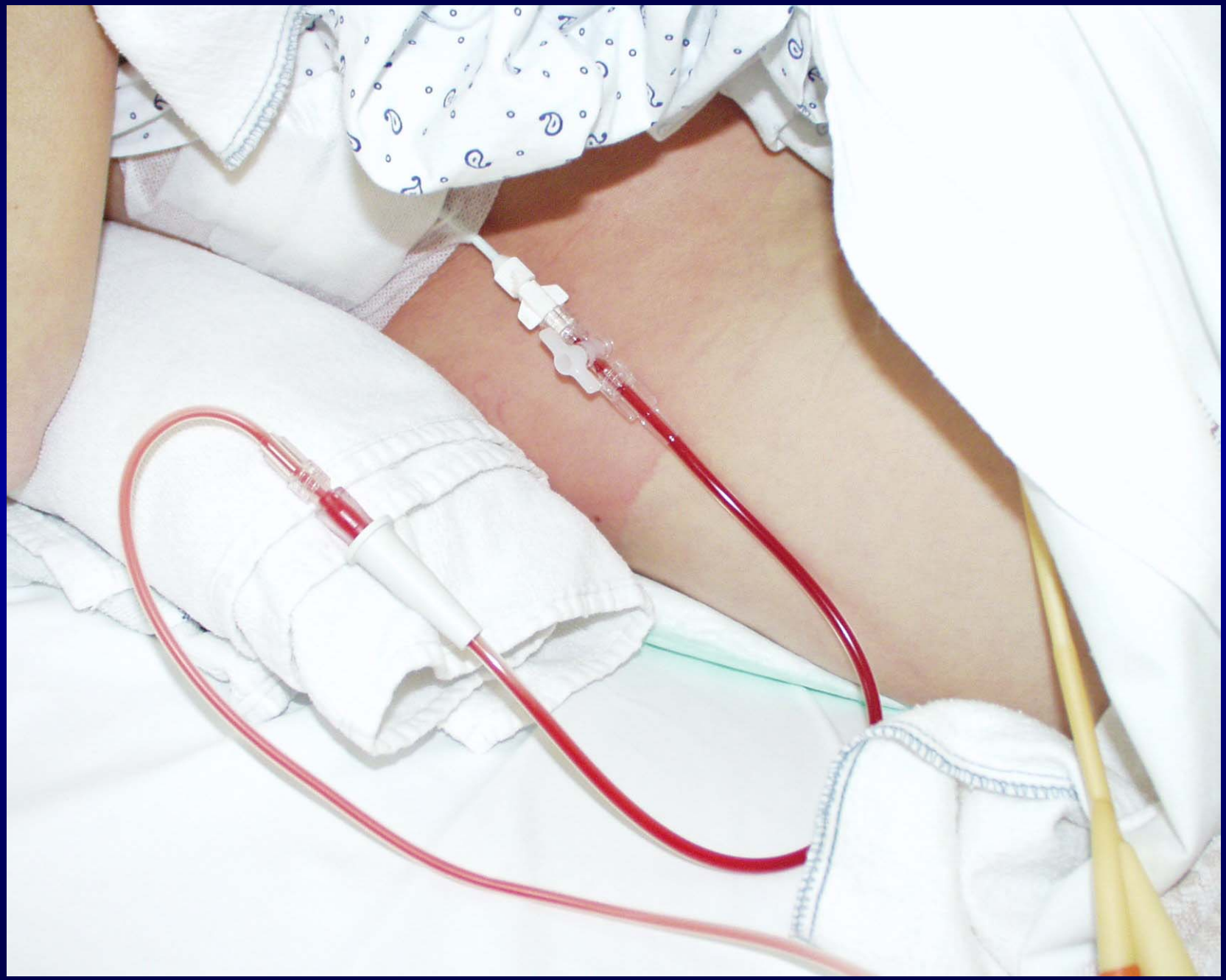
- Biliary tract :
  - Ascending cholangitis ?
  - Biliary tract stenosis, prosthetic material
- « Vascular »:
  - Hepatic artery thrombosis
  - Portal vein ? « phlebitis »
  - « Ischemia » ?
- Postsurgical ?
  - Hepatectomy
  - Chemo-embolization

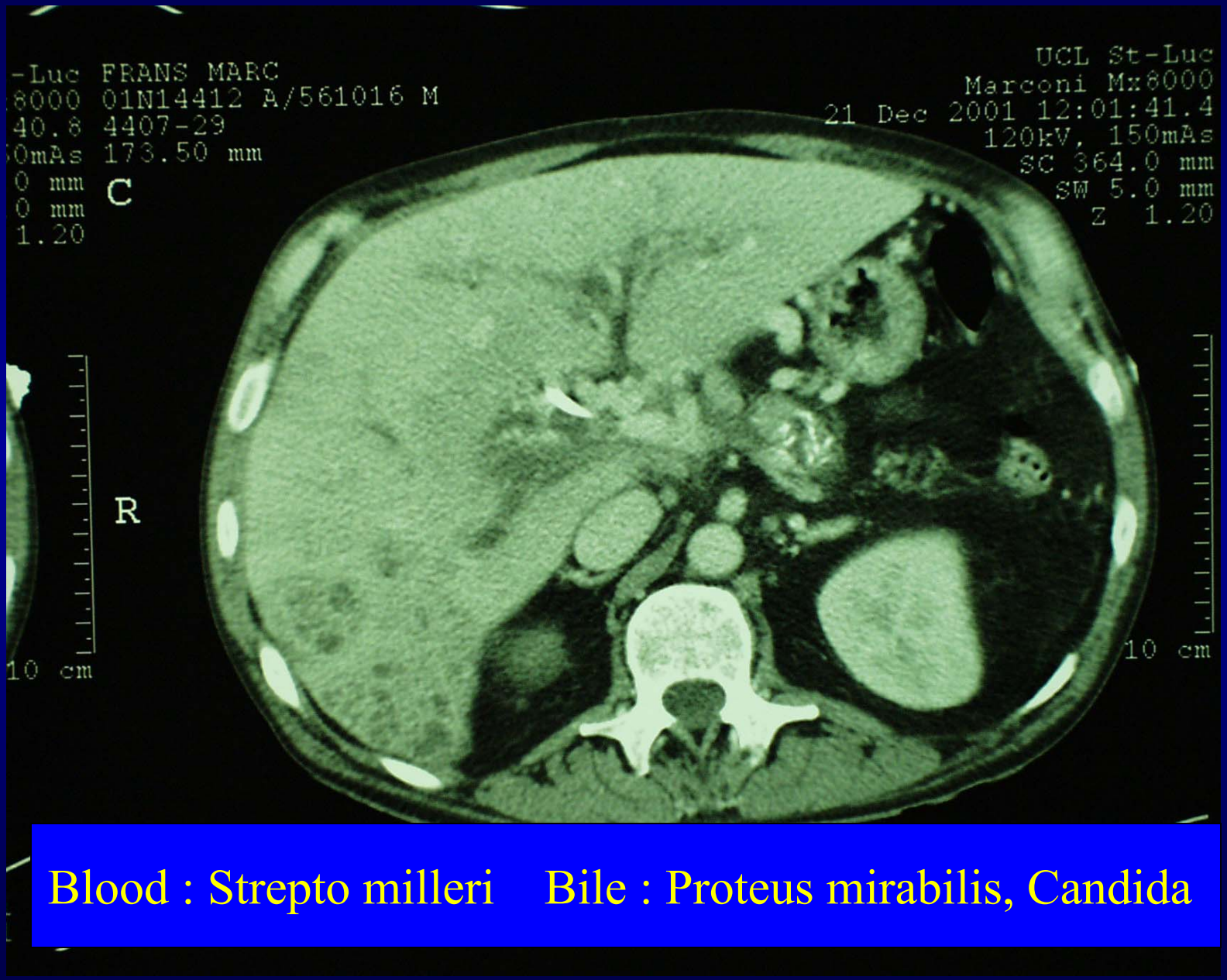


Blood : E coli (3), Clostridium perfringens, E faecalis

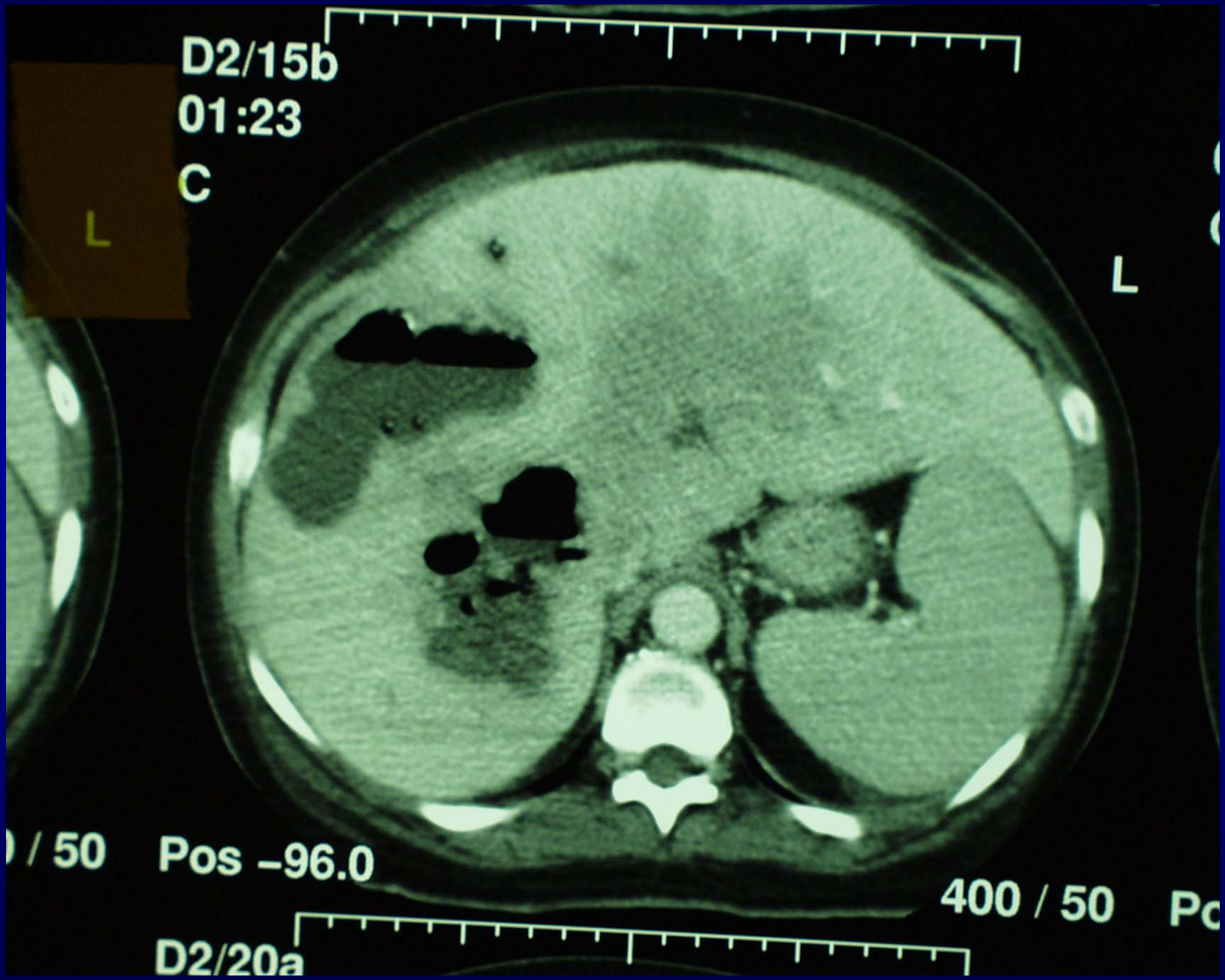
Percutaneous drainage of Liver







Blood : Strepto milleri Bile : Proteus mirabilis, Candida


D2/15b
01:23
C
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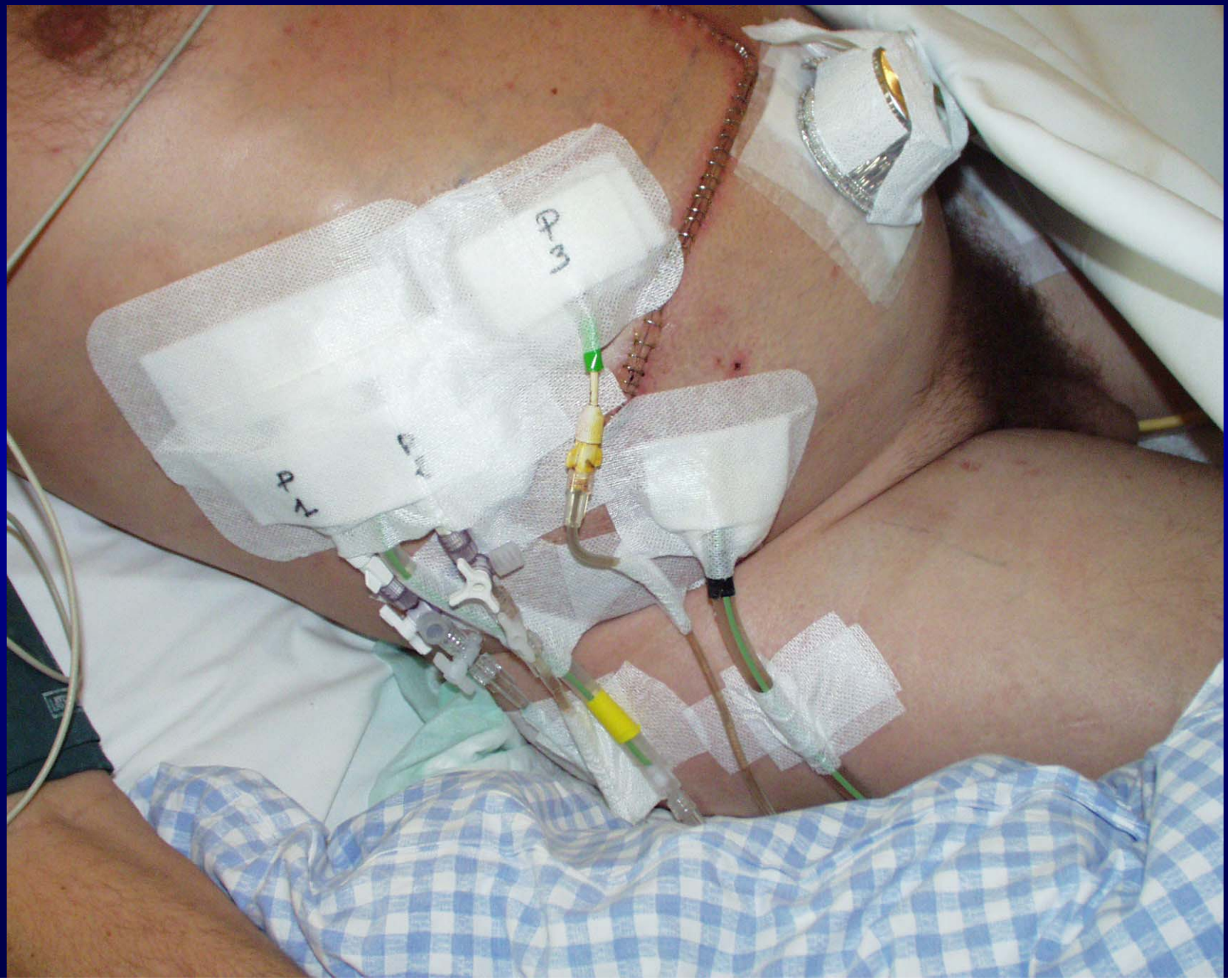
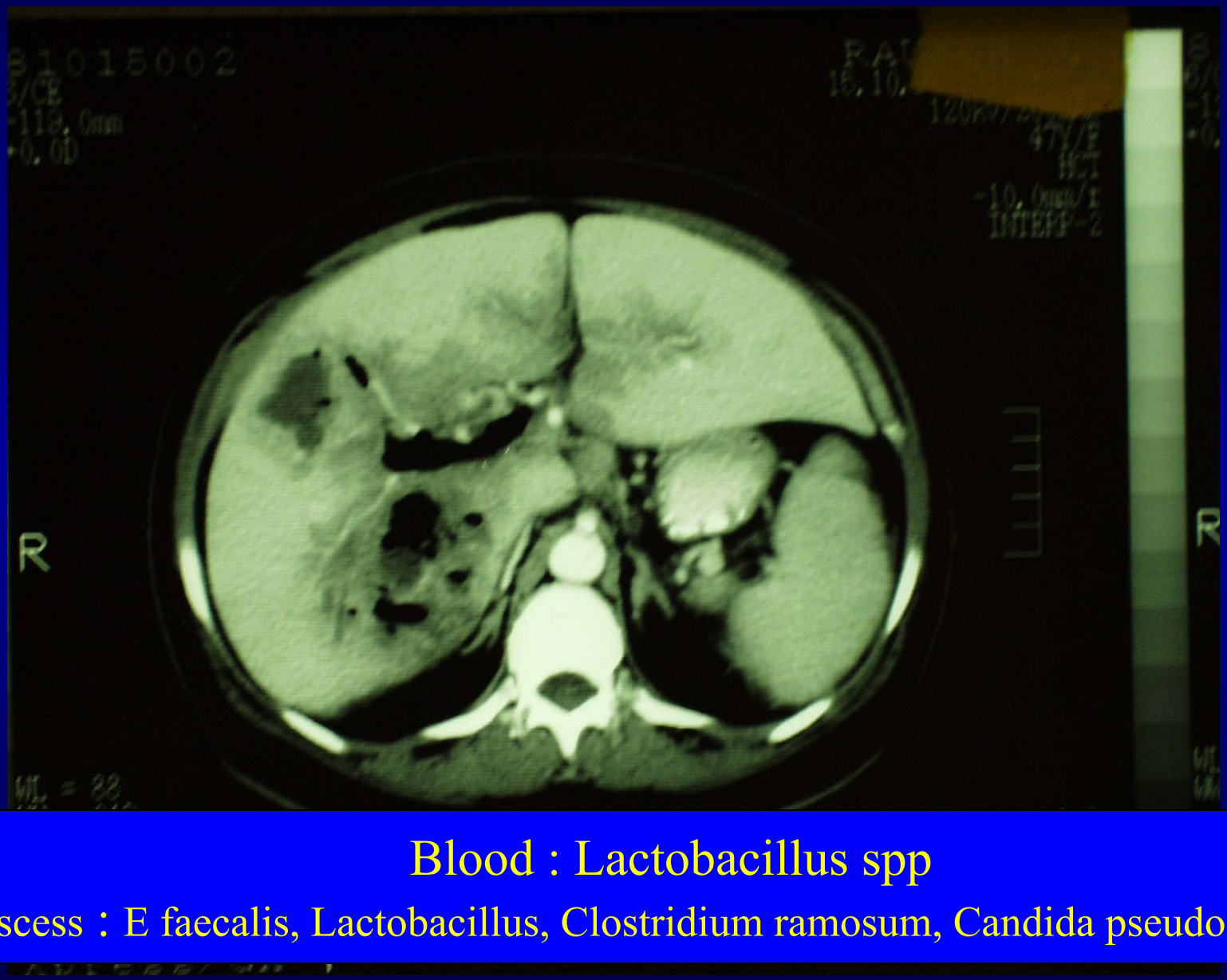
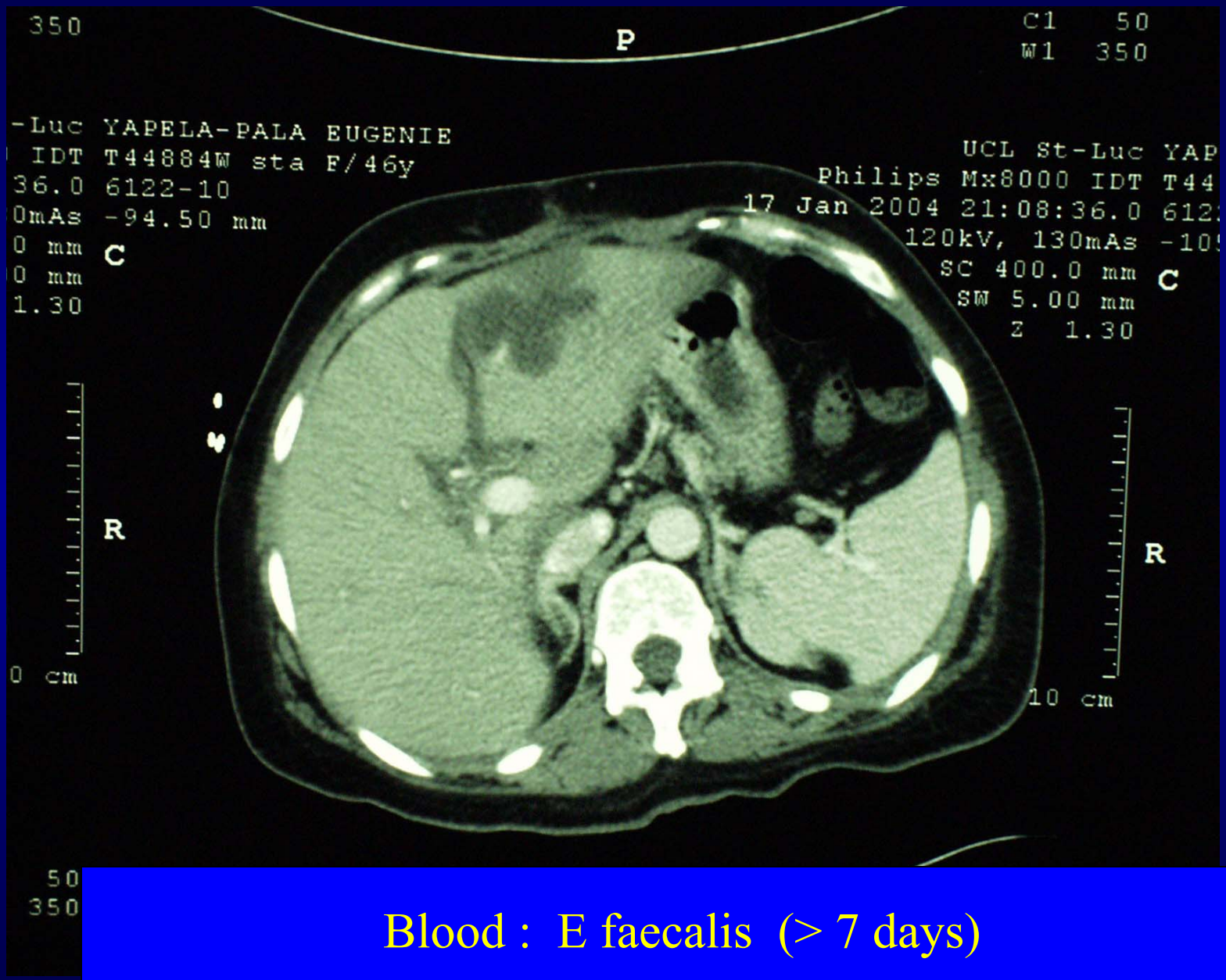
/ 50
Pos –96.0
400 / 50
D2/20a





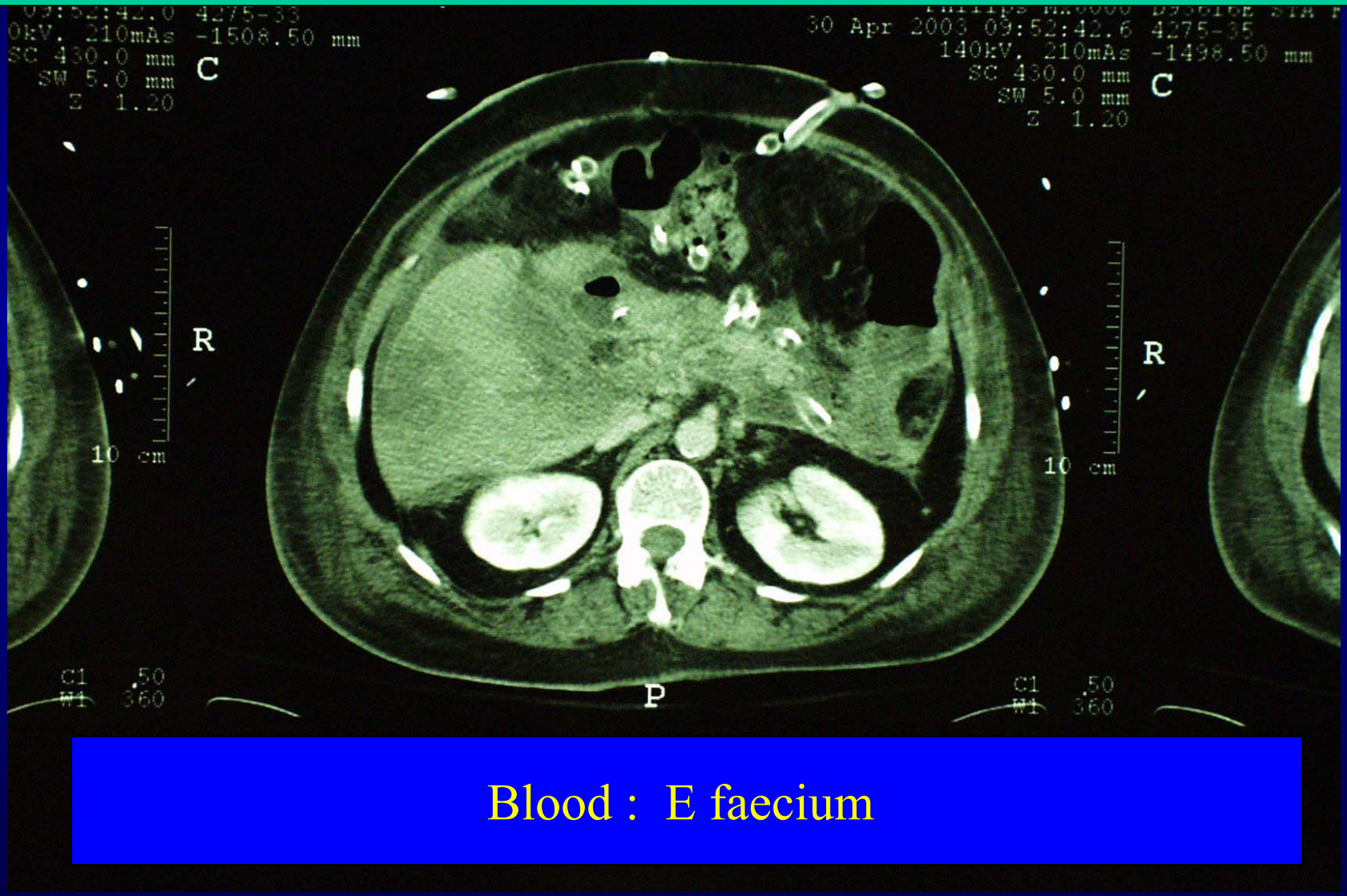
Blood : Lactobacillus spp

Abscess : E faecalis, Lactobacillus, Clostridium ramosum, Candida pseudo-tropicalis



Blood : E faecalis (> 7 days)

Infected pancreatitis : post-surgery and liver necrosis



Blood : E faecium

Liver abscess microbiology

(community-acquired and nosocomial)

- **Community-acquired :**
  - Enterobacteriaceae
  - Streptococci, anaerobes
  - St aureus, *Entamoeba histolytica*

- **« Nosocomial » :**
  - Enterobacteriaceae
  - Streptococci, anaerobes
  - St aureus
  - Pseudomonas aeruginosa
  - Candida spp