Gestione Multidisciplinare della Complessità delle Infezioni Endoaddominali: esperienze a confronto

Dott. Savino Occhionorelli
S.s.d. Chirurgia d'Urgenza
(Resp.: Dott. Giorgio Vasquez)
Az. Osp. Univ. "S.Anna" Ferrara

Chirurgia d'Urgenza - Ferrara
"Principiis obstat"

Malnutrizione

Età avanzata

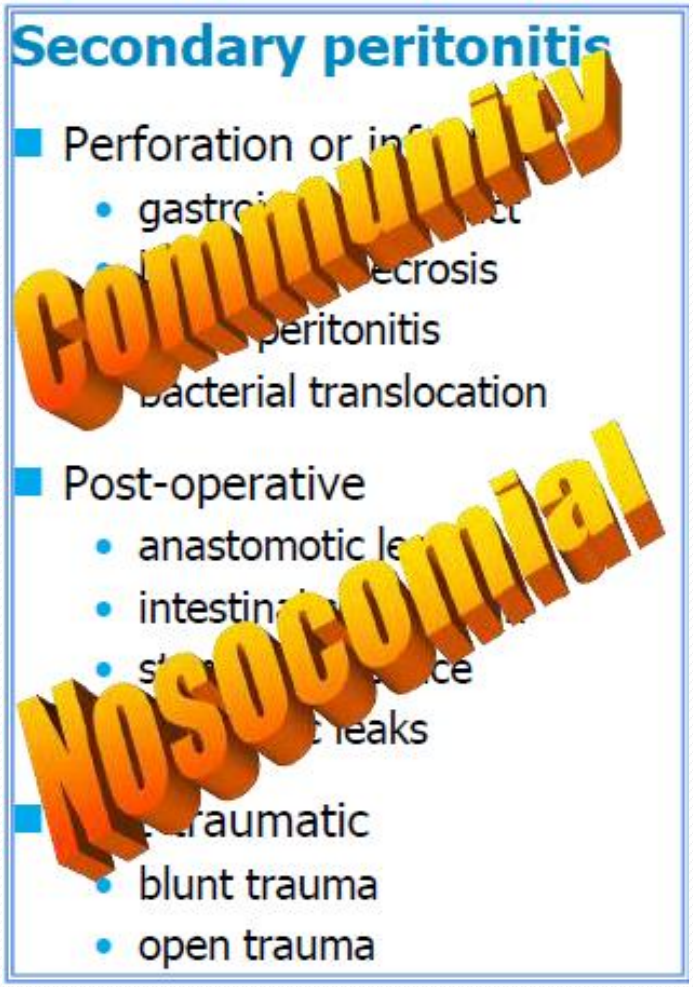
Corticosteroidi

Terapie antibiotiche pregresse

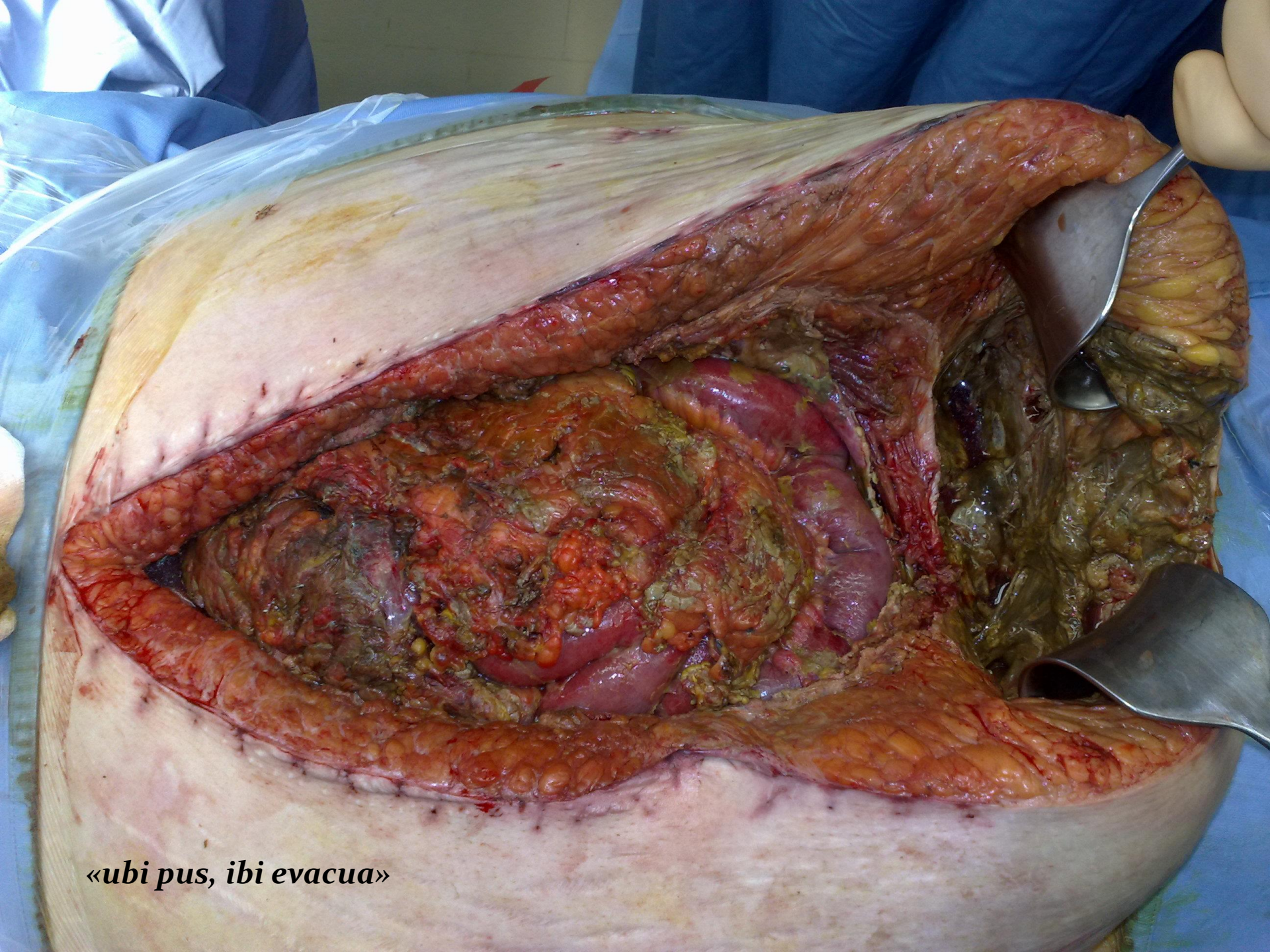
Diabete

Immunocompromissione

TERZIARIE



TERZIARIE


«ubi pus, ibi evacua»

MANUALE

DI

PATOLOGIA E TERAPIA

CHIRURGICA GENERALE

IN 50 LEZIONI

AD USO DEGLI STUDENTI E MEDICO-CHIRURGI

DEL

Dott. TEODORO BILLROTH

Professore di Chirurgia in Vienna

collaborato dal

D.r ALESSANDRO v. WINIWARTER

Professore di Chirurgia in Liegi

TERZA versione italiana eseguita sulla NONA edizione tedesca

DAL

D.r GIOVANNI ANTONELLI

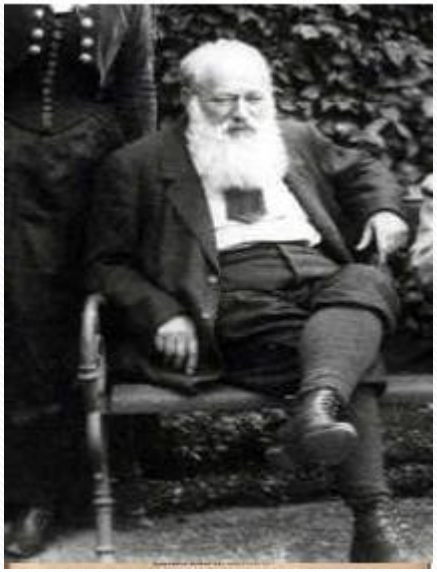
Professore di Anatomia descrittiva nella R. Università di Napoli

con 179 figure intercalate

NAPOLI

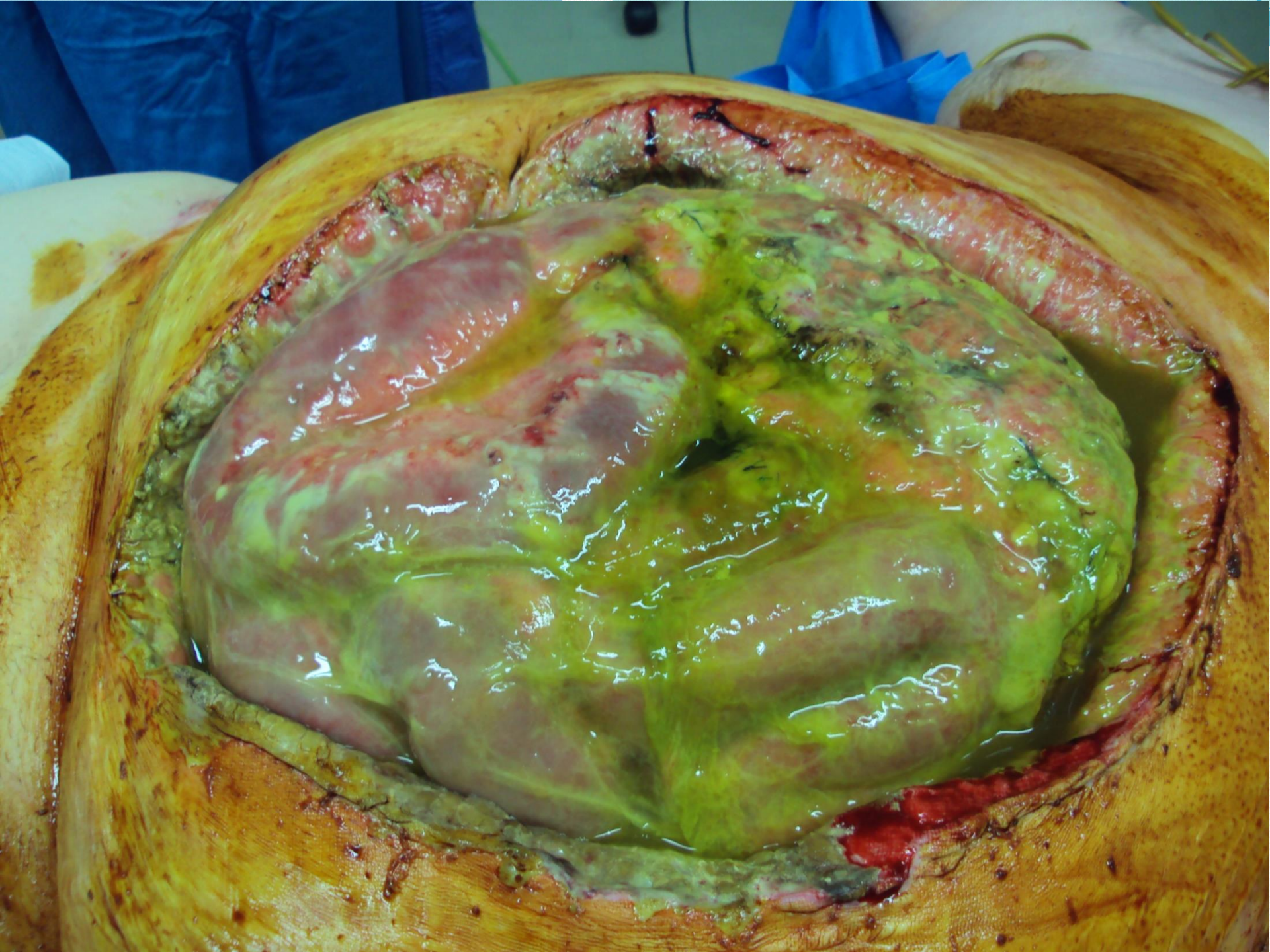
Dottor VINCENZO PASQUALE Editore

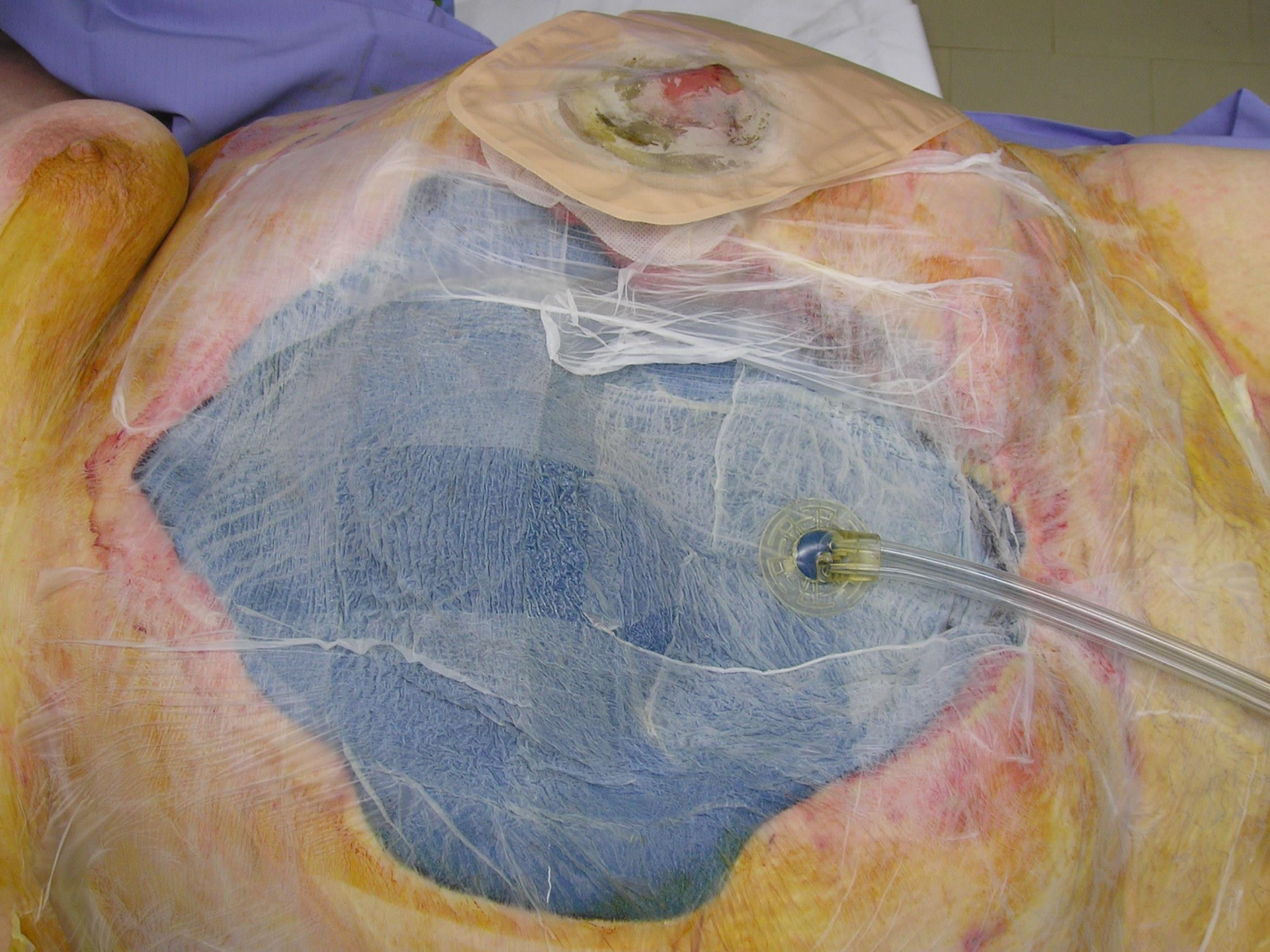
Libreria nella R. Università.

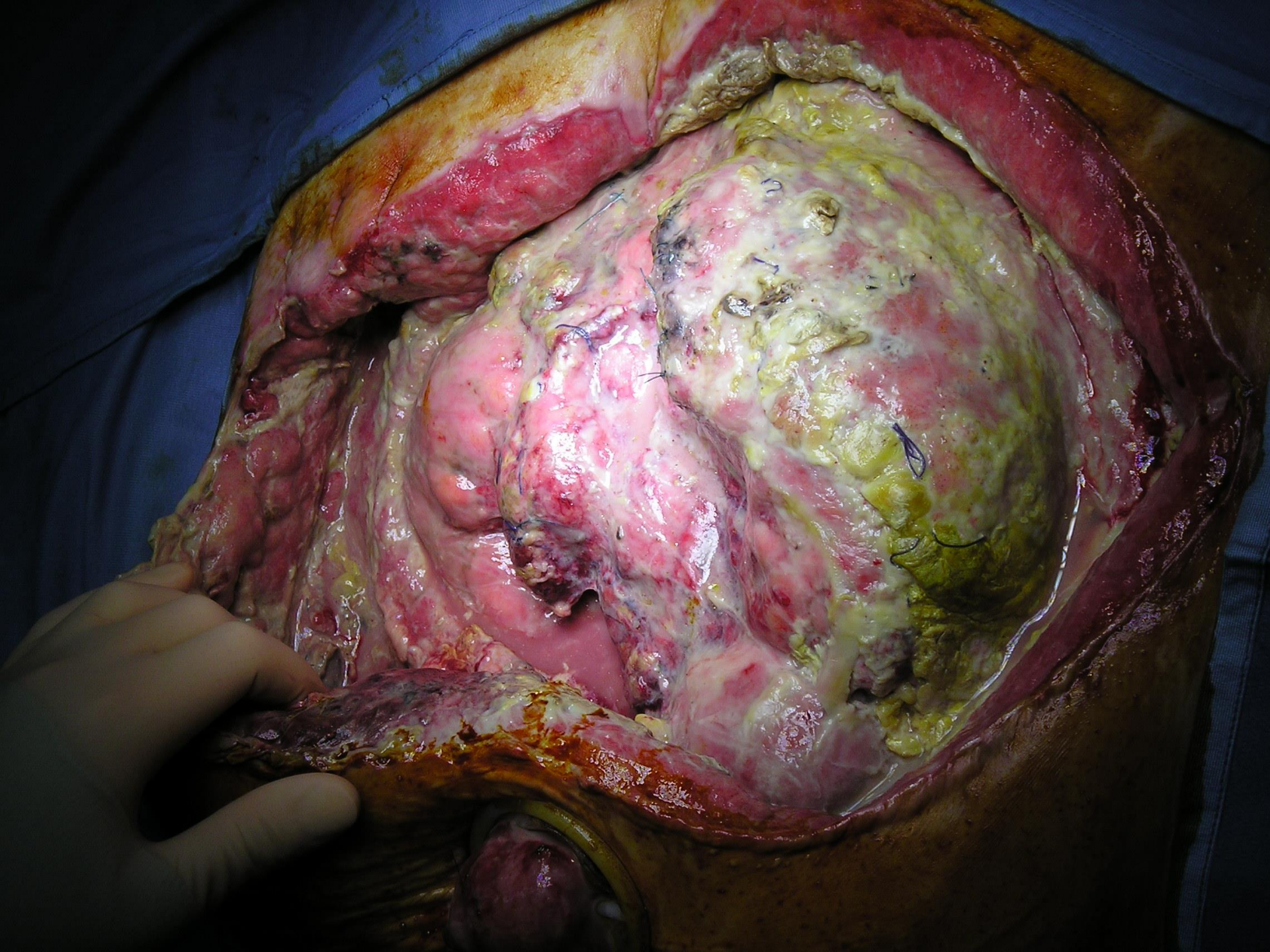


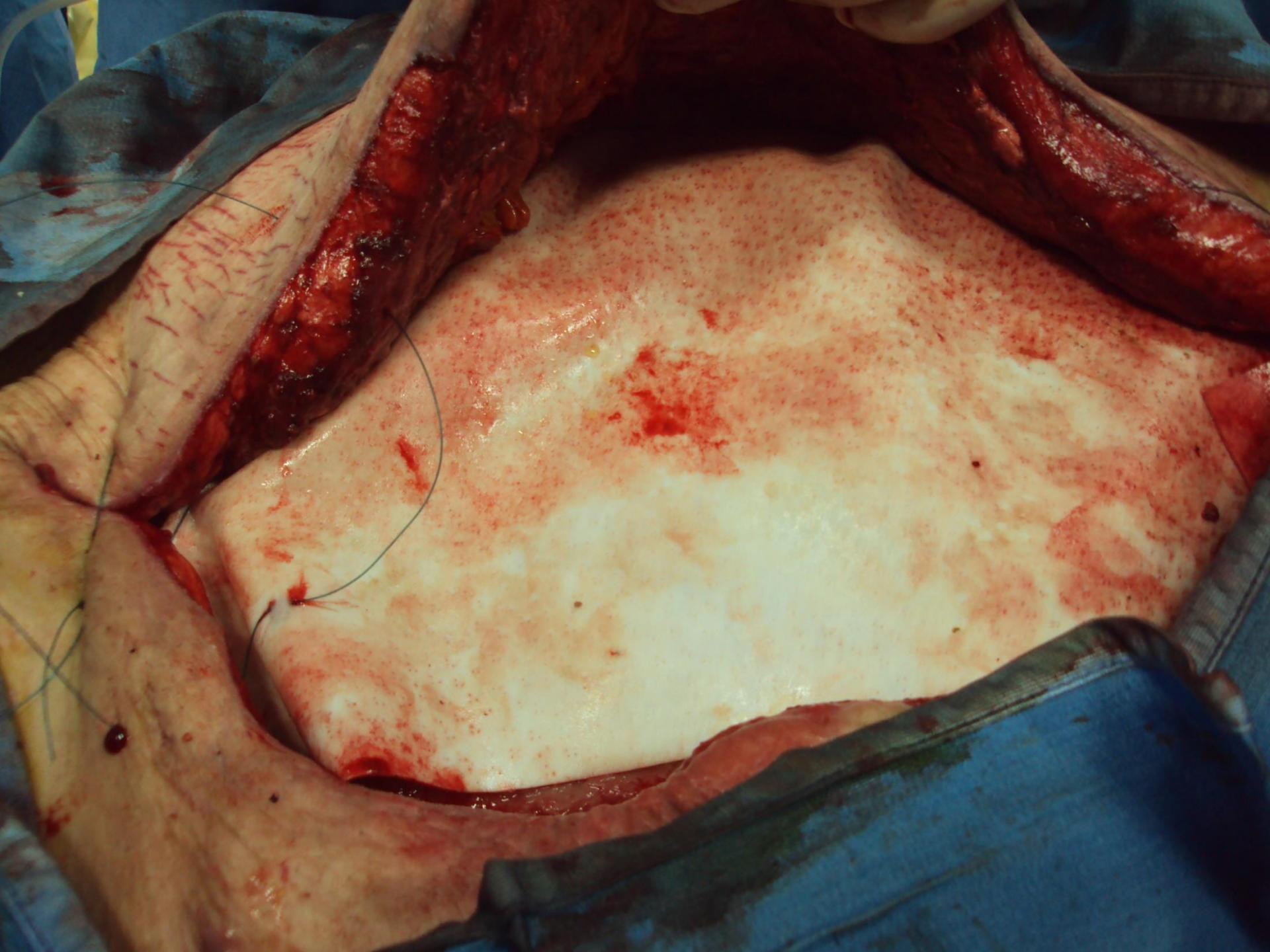
"i chirurghi moderni non possono più acquietarsi nel detto antico l'operazione è fatta, "Dio salverà l'ammalato" gli obblighi suoi principali cominciano dopo l'operazione e *consistono in* un razionale metodo di cura…"

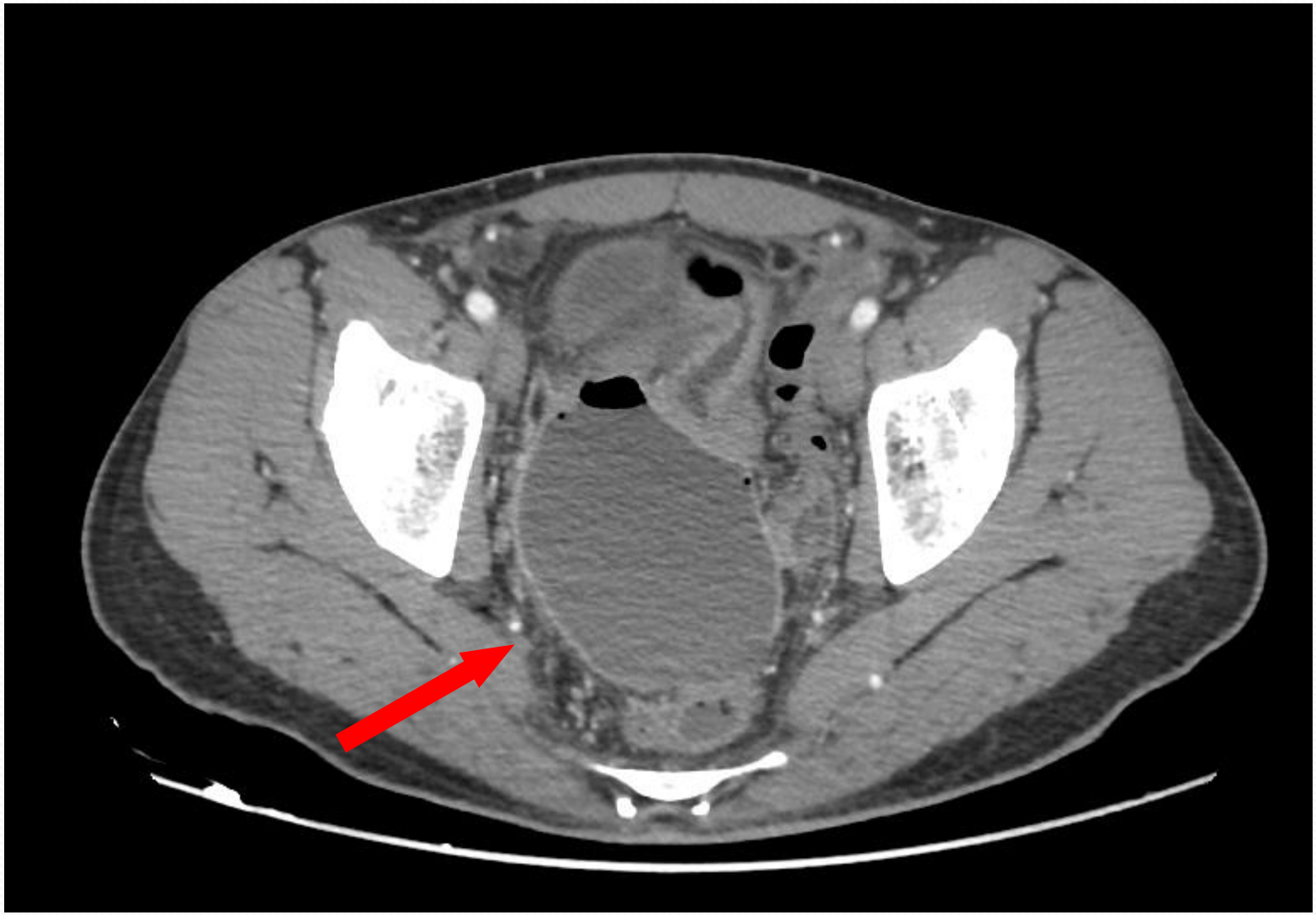
CURE

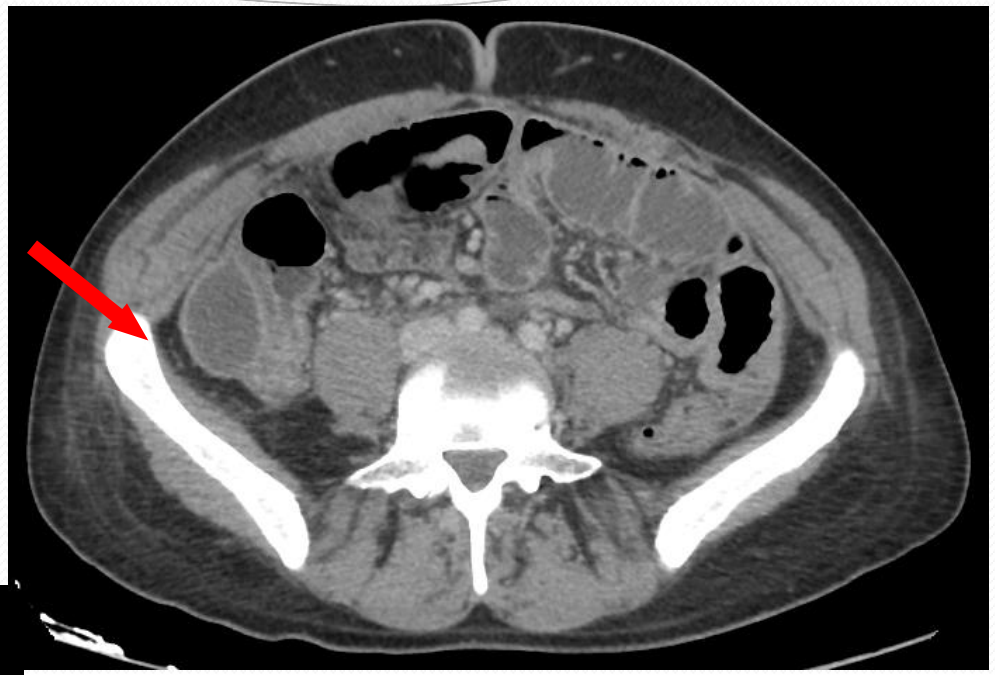


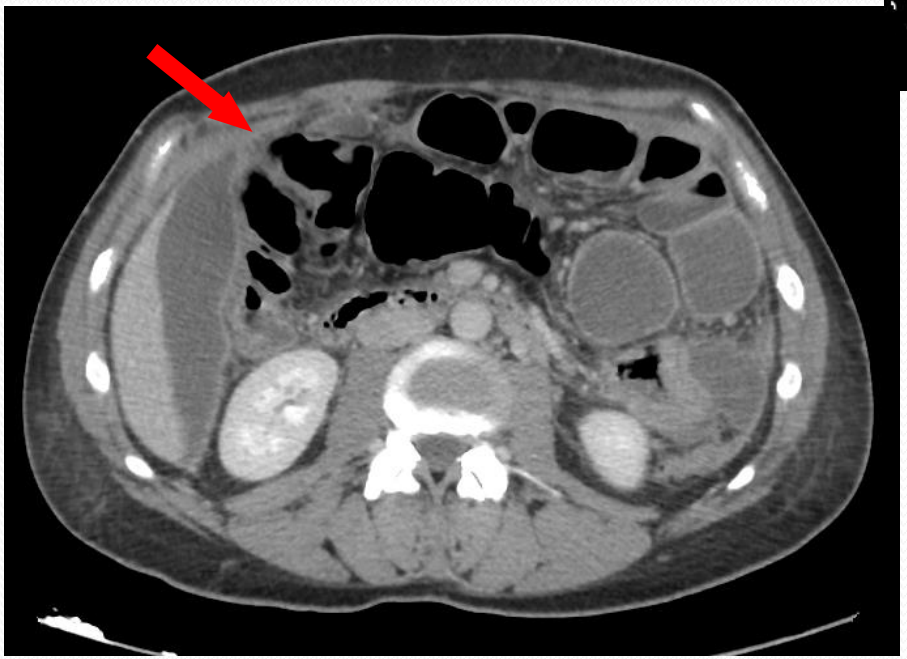


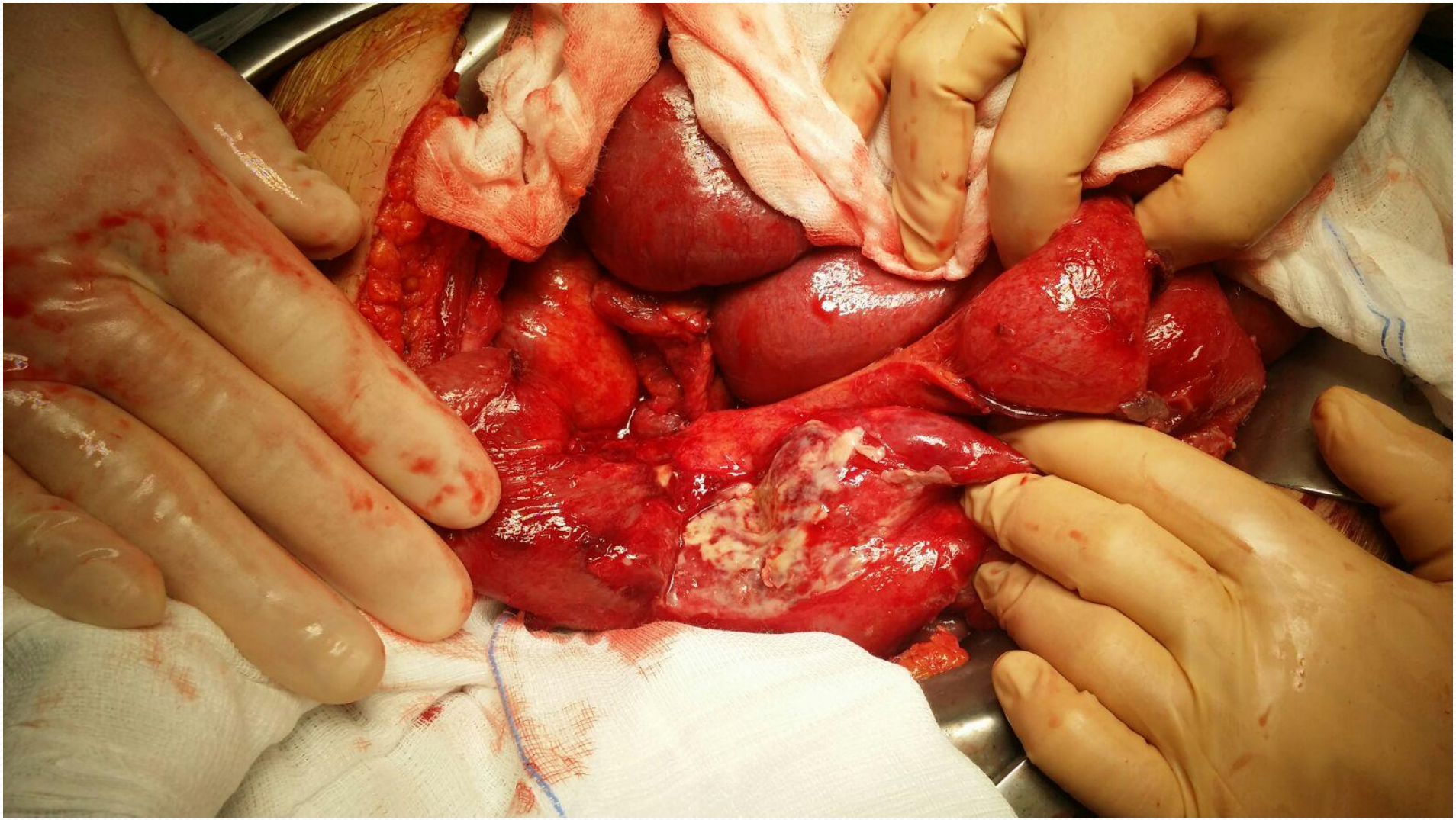


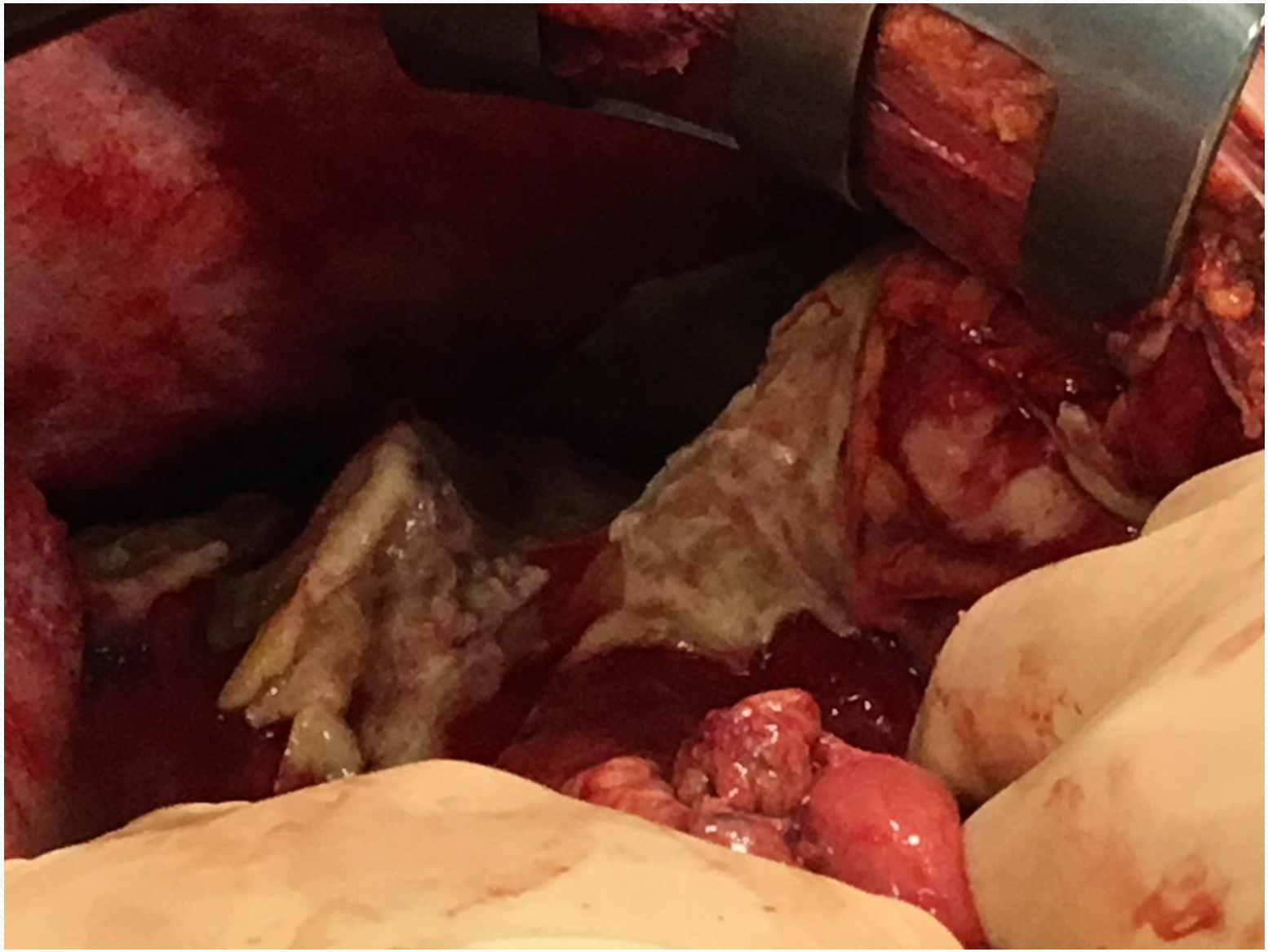


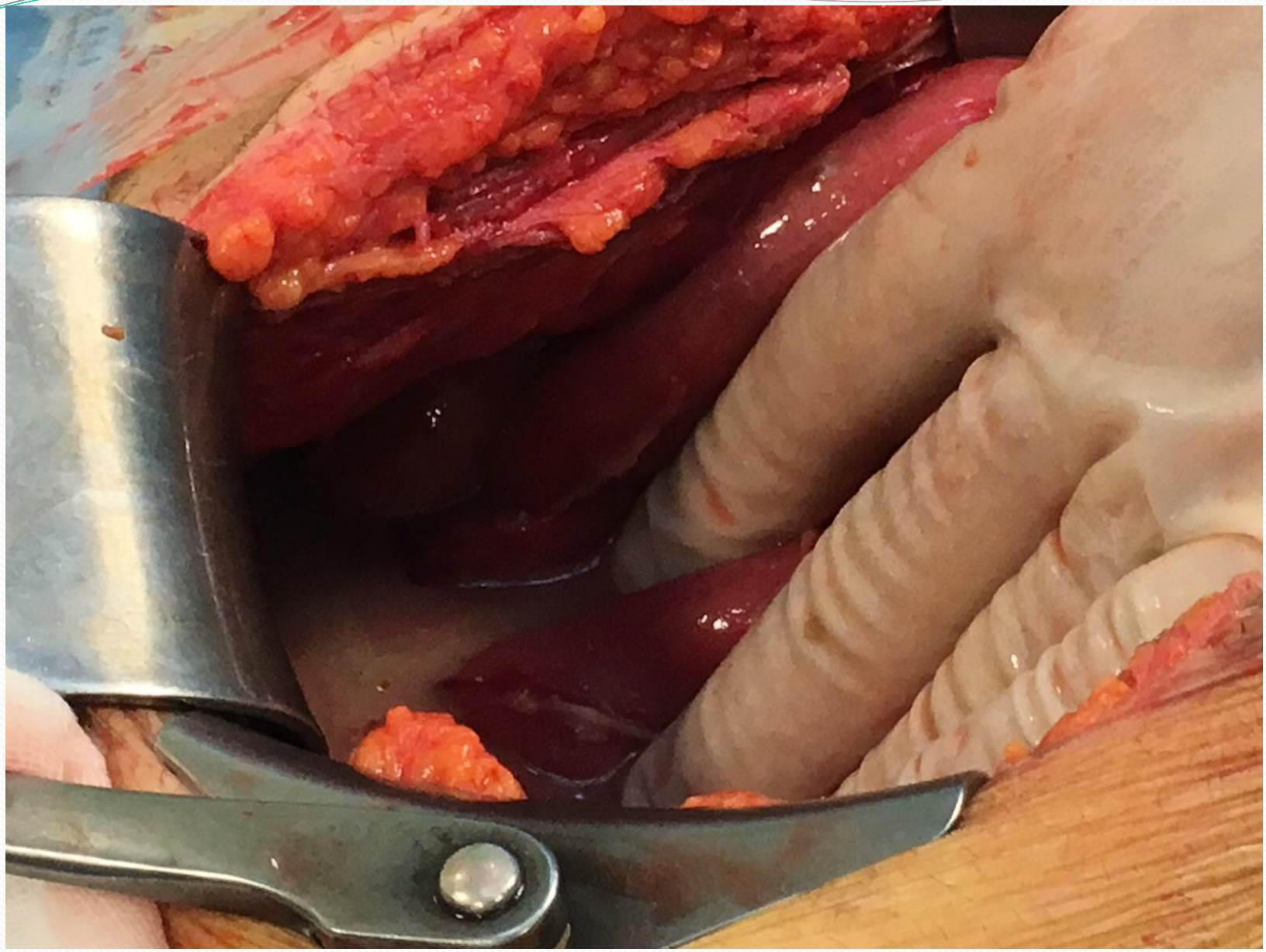


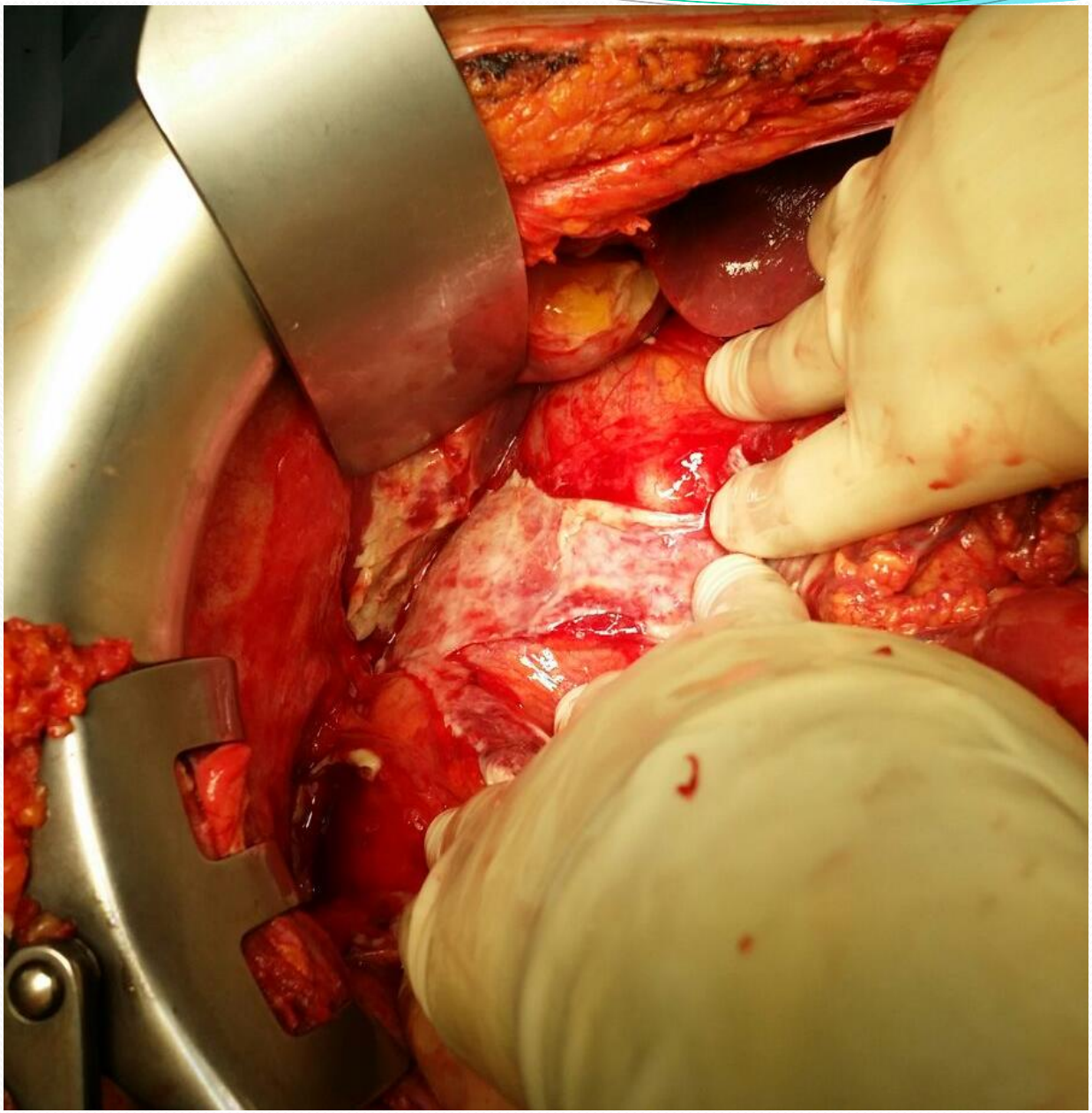


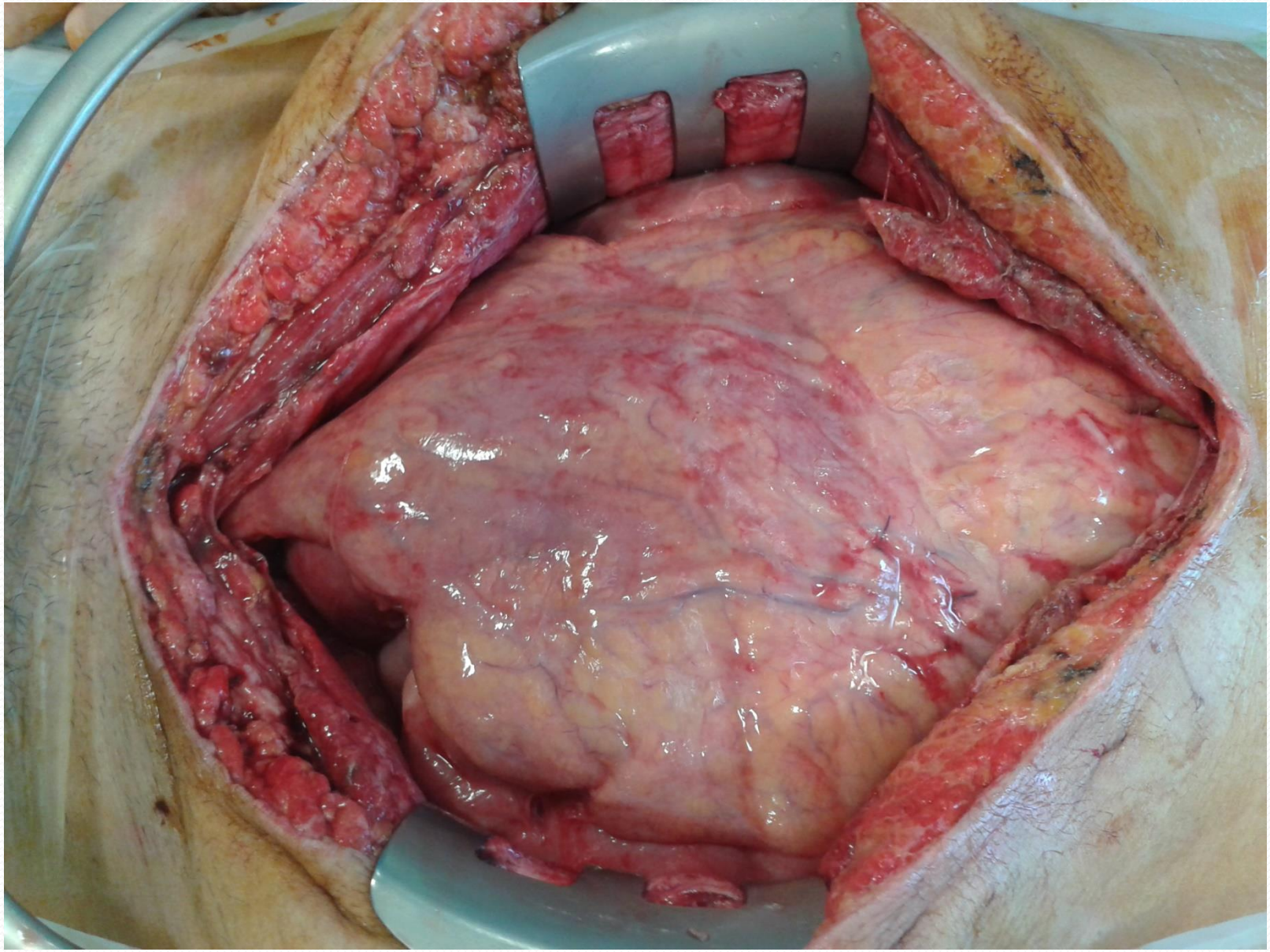


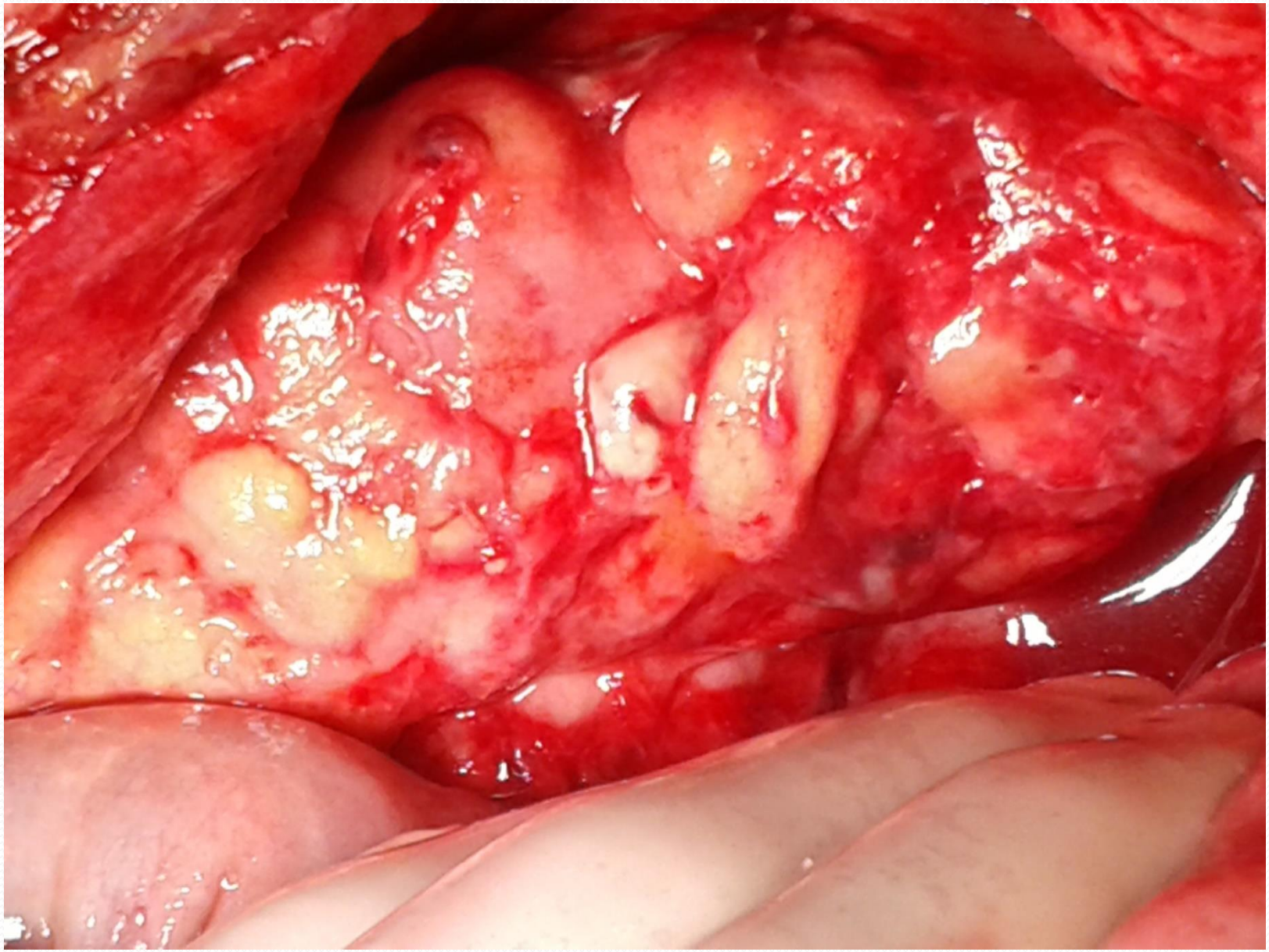


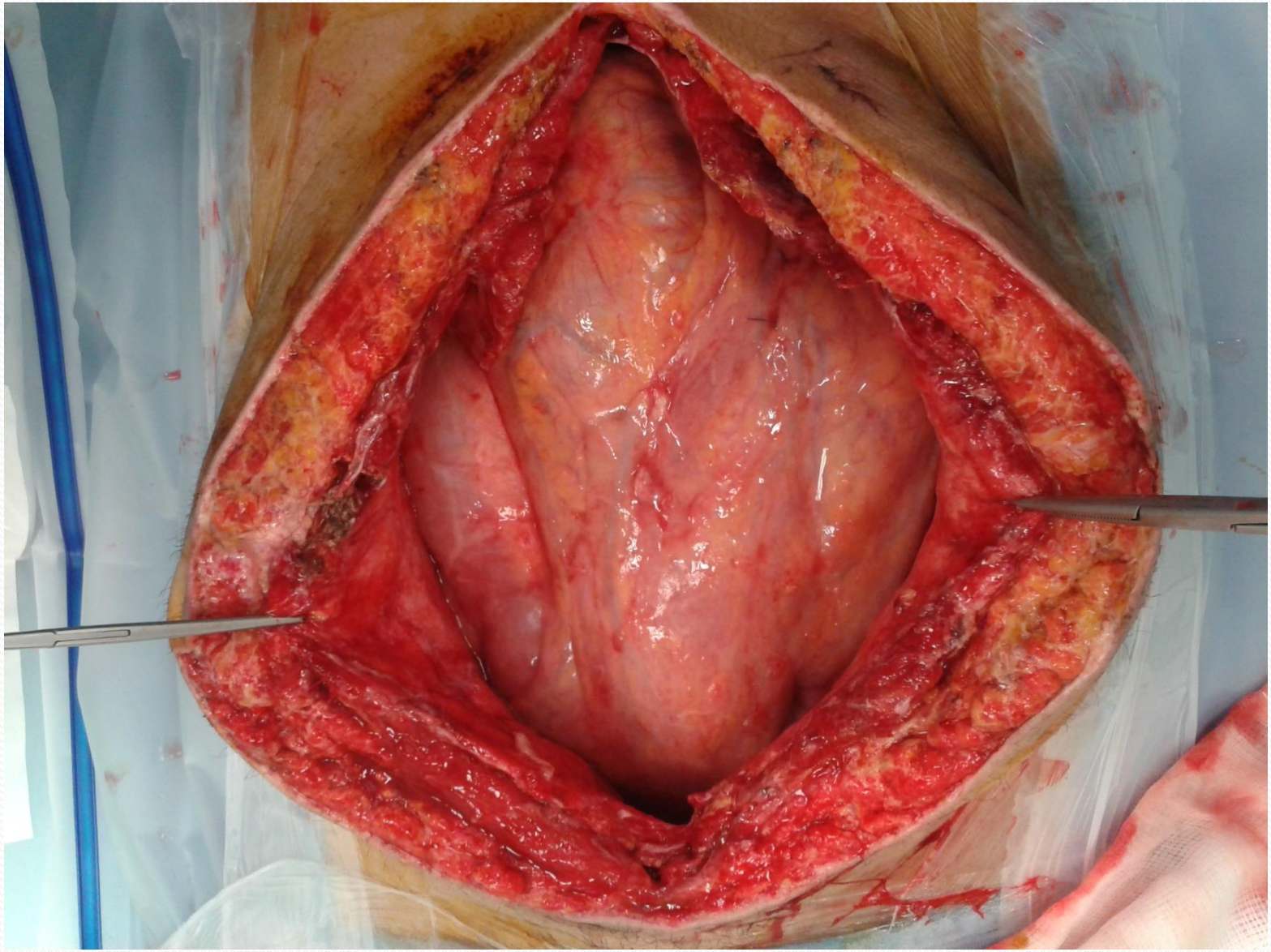












Materiali e Metodi

Variables	N = 112
Gender [N (%)]	
Male	64 (57.1)
Female	48 (42.9)
Age [N (%)]	
< 65	22 (19.6)
65-75	29 (25.9)
> 75	61 (54.5)
Body Mass Index	24.5 (22.0-27.1)
American Society of Anesthesiologists score [N (%)]	
2	23 (21.3)
3	61 (56.5)
4	23 (21.3)
5	1 (0.9)
Diabetes [N (%)]	24 (21.4)
Preoperative diagnosis [N (%)]	
Bowel obstruction	67 (59.8)
Bowel perforation	17 (15.2)
Rectal hemorrhage	13 (11.6)
Anemia	9 (8.0)
Palpable mass	6 (5.3)

Studio retrospettivo
Unità Operativa di Chirurgia d'Urgenza
Gennaio 2011 – Febbraio 2015
112 pazienti

Criteri di inclusione:

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Unità Operativa di Chirurgia d'Urgenza
Gennaio 2011 – Febbraio 2015
112 pazienti

54,5% dei pazienti ha età maggiore di 75 anni

78,7% dei pazienti si presenta con ASA score ≥ 3

Criteri di inclusione:

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Gennaio 2011 – Febbraio 2015
112 pazienti

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Il 59,8 % dei pazienti presentava occlusione intestinale

Terapia antibiotica pre-operatoria

Variables	N = 112
Antibiotic prophylaxis [N (%)]	107 (95.5)
Cefazolina	37 (34,6)
Sulbactam/Ampicillina	24 (22,4)
Metronidazolo	20 (18,7)
Amicacina	11 (10,3)
Ciprofloxacina	7 (6,5)
Amoxicillina/Acido clavulanico	4 (3,7)
Piperacillina/Tazobactam	4 (3,7)
Antibiotic prophylaxis and preoperative diagnosis [(%)]	[(%)]
Bowel obstruction	95.5
Bowel perforation	100
Rectal hemorrhage	84.6
Anemia	100
Palpable mass	100

Per profilassi è intesa la terapia antibiotica preoperatoria e intraoperatoria.

Nel 95.5% la terapia antibiotica era già stata impostata prima o durante l'intervento.

Il quadro di presentazione non influenza la presenza o meno della terapia profilattica.

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Nel 95.5% la terapia antibiotica era già stata impostata prima o durante l'intervento.

La terapia antibiotica viene instaurata indipendentemente dalla complicanza di presentazione.

Terapia antibiotica nel post-operatorio

Variables	N = 112
Post-operative therapy [N (%)]	112 (100.0)
Metronidazolo	78 (69.6)
Sulbactam/Ampicillina	75 (67.0)
Amicacina	46 (41.1)
Cefazolina	32 (28.6)
Ciprofloxacina	21 (18.8)
Amoxicillina/Acido clavulanico	8 (7.1)
Ceftriaxone	6 (5.4)
Piperacillina/Tazobactam	4 (3.6)
Fluconazolo	3 (2.7)
Levofloxacina	3 (2.7)
Meropenem	2 (1.8)
Teicoplanina	1 (0.9)
Acido pipenidico	1 (0.9)
Trimetoprim/Sulfametazolo	1 (0.9)
Clindamicina cloridrato	1 (0.9)
Ampicillina	1 (0.9)

La terapia antibiotica post-operatoria è stata svolta nella totalità dei casi, prima empirica poi adattata al colturale.

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La terapia antibiotica post-operatoria è stata svolta nella totalità dei casi, prima empirica poi adattata al colturale.

- **Metronidazolo** nel **69,6%** dei pazienti trattati
- **Sulbactam/Ampicillina** nel **67,0%**
- **Amicacina** nel **41,1%**
- **Cefazolina** nel **28,6%**
- **Ciprofloxacina** nel **18,8%**

Complicanze infettive

Variables	N = 112
Post-operative complications [N (%)]	
Grade I	0 (0.0)
Grade II	81 (72.3)
Grade IIIa	1 (0.9)
Grade IIIb	4 (3.6)
Grade IVa	17 (15.2)
Grade IVb	3 (2.7)
Grade V	6 (5.4)
Type of complications [N (%)]*	
Infectious complication	13 (11.6)
Urinary Tract Infection	2 (1.8)
Wound infection	2 (1.8)
Intra- or retroperitoneal abscess	0 (0.0)
Sepsis	4 (3.6)
Septic shock	5 (4.5)
Median White blood cell at presentation [N]	8.0 (7.0 – 11.0)
Median Neutrophils count at presentation [N (%)]	7.0 (5.0 – 8.5)
Overall survival [months]	8.8 (0.4 – 24.9)
In hospital mortality [N (%)]	4 (30,8)
In hospital mortality and Overall survival by infectious complication [N (days)]	
Urinary Tract Infection	0
Wound infection	0
Sepsis	1 (8)
Septic shock	3 (0.0)

* Clavien-Dindo Classification of complications.

Clavien – Dindo Classification

Degree	Definition
I	Any deviation from the normal postoperative course without need of intervention beyond the administration of antiemetics, antipyretics, analgesics, diuretics, electrolytes and physical therapy #
II	Complication requiring pharmacological treatment with other medicines beyond the ones used for the complications of degree I.
III	Complication requiring surgical, endoscopic or radiological intervention
III-a	Intervention without general anesthesia
III-b	Intervention under general anesthesia
IV	Life-threatening complication requiring admission to intensive care unit
IV-a	Uni-organ dysfunction (including dialysis)
IV-b	Multi-organ dysfunction
V	Death

#This degree also includes drained cutaneous infections without general anesthesia.

Dei pazienti presentanti complicanza sono state analizzate:

- Mediana di WBC e di Neutrofili alla presentazione
- Sopravvivenza globale
- In hospital mortality

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- **IVU**
- **Infezione di ferita**
- **Sepsi**
- **Shock settico**

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I	Any deviation from the normal postoperative course without need of intervention beyond the administration of antiemetics, antipyretics, analgesics, diuretics, electrolytes and physical therapy #
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III-a	Intervention without general anesthesia
III-b	Intervention under general anesthesia
IV	Life-threatening complication requiring admission to intensive care unit
IV-a	Uni-organ dysfunction (including dialysis)
IV-b	Multi-organ dysfunction
V	Death

#This degree also includes drained cutaneous infections without general anesthesia.

Dei pazienti presentanti complicanza sono state analizzate:

- Mediana di WBC e di Neutrofili alla presentazione
- Sopravvivenza globale
- In hospital mortality

- **IVU**
- **Infezione di ferita**
- **Sepsi**
- **Shock settico**

Complicanze infettive

Variables	N = 112
Post-operative complications [N (%)]	
Grade I	0 (0.0)
Grade II	81 (72.3)
Grade IIIa	1 (0.9)
Grade IIIb	4 (3.6)
Grade IVa	17 (15.2)
Grade IVb	3 (2.7)
Grade V	6 (5.4)
Type of complications [N (%)]*	
Infectious complication	13 (11.6)
Urinary Tract Infection	2 (1.8)
Wound infection	2 (1.8)
Intra- or retroperitoneal abscess	0 (0.0)
Sepsis	4 (3.6)
Septic shock	5 (4.5)
Median White blood cell at presentation [N]	8.0 (7.0 – 11.0)
Median Neutrophils count at presentation [N (%)]	7.0 (5.0 – 8.5)
Overall survival [months]	8.8 (0.4 – 24.9)
In hospital mortality [N (%)]	4 (30,8)
In hospital mortality and Overall survival by infectious complication [N (days)]	
Urinary Tract Infection	0
Wound infection	0
Sepsis	1 (8)
Septic shock	3 (0.0)

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Il **30,8%** dei pazienti presentanti una complicanza infettiva **muore durante il ricovero**

Complicanze infettive

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Decessi per complicanza infettiva durante il ricovero

La principale causa di morte per complicanza infettiva postoperatoria è stato lo shock settico (75% dei casi)

Complicanze infettive

Variables	N = 112
Post-operative complications [N (%)]	
Grade I	0 (0.0)
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- In hospital mortality

Decessi per complicanza infettiva durante il ricovero

La sopravvivenza globale mediana dei deceduti per shock settico è pari a o giorni

Complicanze infettive

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Decessi per complicanza infettiva durante il ricovero

È risultata quindi efficace la collaborazione tra chirurgo ed infettivologo nel gestire la complicanza infettiva.

PANCREATITI ACUTE SEVERE

E’ UNA PATOLOGIA SOLO PER CHIRURGHI

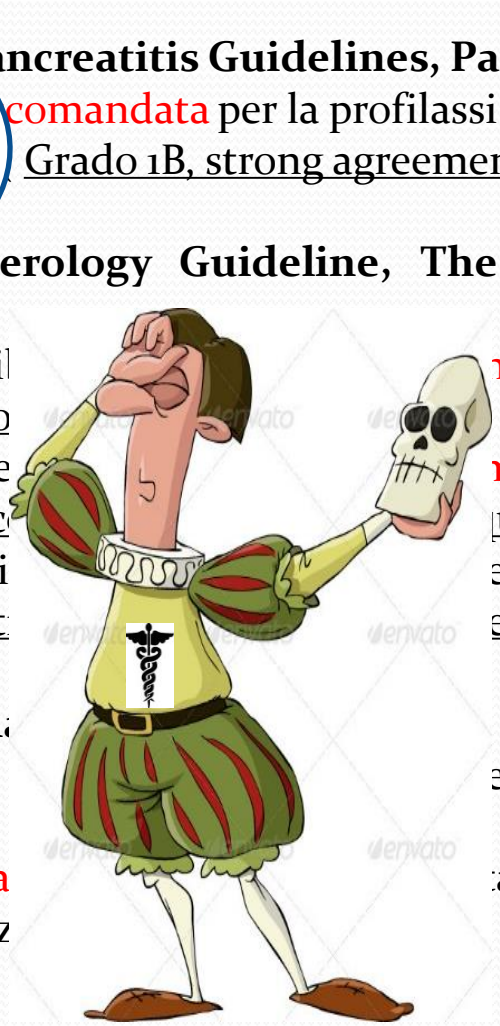
ANTIBIOTICOTERAPIA

LINEE GUIDA

- **Working Group I… Pancreatitis Guidelines, Pancreatology (2013)**
  - La profilassi anti… comandata per la profilassi delle complicanze infettive in caso… Grado 1B, strong agreement)

- **American College… nterology Guideline, The American Journal of Gastroenterology (2013)**:
  - L'uso routinario della profilassi anti… n è raccomandata (strong recommendation, moderate quality o…
  - L'uso degli antibiotici in pz con ne… nandato per prevenire lo sviluppo di necrosi infetta(strong rec… uality of evidence).
  - Nei pz con necrosi infetta alcuni anti… el ridurre la morbidità e la mortalità.(conditional recommendat… e)

- **Japanese Guidelines, J Hepatobili…**
  - La profilassi antibiotica e.v. non è … erata perché il rischio di complicanza infettiva è basso (1A)
  - La profilassi nella SAP può migliora… a nella fase precoce della pancreatite (entro 72 h dall'insorgenz…



L'ESPERIENZA
IN CHIRURGIA D'URGENZA

- 30 Ricoveri per Pancreatite Acuta severa in 4 anni (M:18; F:12. Età media: 62 anni)

- 5 Decessi (M:3; F:2)

STEP	EVIDENCE	ANTIBIOTIC
STEP 1	WBC+Clinical Conditions	Broad spectrum
STEP 2	Positive blood cultures	Targeted
STEP 3	Drained fluid cultures	Targeted

Antibiotics treatment strategy

L'ESPERIENZA

IN CHIRURGIA D'URGENZA

Classe	Principio Attivo	Pazienti (%)	Monoterpia (si/no)
Cefalosporine III Generazione	Ceftriaxone, Cefazidima	11 (45.8)	si
Penicilline + IBL	Amoxicillina, Ampicillina, Piperacillina	11 (45.8)	si
Chinolonici	Ciprofloxacina	7 (29.2)	si
Glicilcicline	Tigeciclina	6 (25.0)	no
Carbapenemici	Meropenem	6 (25.0)	si
Aminoglicosidi	Amikacina	5 (21.0)	no
Glicopeptidi	Vancomicina, Teicoplanina	4 (16.7)	no
Lincosamidi	Clindamicina	1 (4.2)	no
Nitroimidazoli	Metronidazolo	1 (4.2)	no
Sulfamidici	Trimetoprin	1 (4.2)	no

THE STATE OF ART

Tigecycline-Related Pancreatitis: A Review of Spontaneous Adverse Event Reports

Hospital Pharmacy
Volume 44, Number 3, pp 239–241

FEATURED ARTICLE

Tigecycline-Induced Pancreatitis

S. Renee Marshall, PharmD*

Tigecycline-induced acute pancreatitis: case report and literature review

Whitney Y. Hung[a,*], Laura Kogelman[b], Gretchen Volpe[b], Mark Iafrati[c], Lisa Davidson[b]

THE STATE OF ART

J Antimicrob Chemother 2013; **68** Suppl 2: ii25–ii35
doi:10.1093/jac/dkt142

Journal of Antimicrobial Chemotherapy

Efficacy of tigecycline for the treatment of complicated intra-abdominal infections in real-life clinical practice from five European observational studies

Christian Eckmann[1]*, Philippe Montravers[2], Matteo Bassetti[3], Klaus Friedrich Bodmann[4], Wolfgang R. Heizmann[5], Miguel Sánchez García[6], Xavier Guirao[7,8], Maria Rita Capparella[9], Damien Simoneau[9] and Hervé Dupont[10]

THE STATE OF ART

Mentula and Leppäniemi *World Journal of Emergency Surgery* 2014, **9**:15
http://www.wjes.org/content/9/1/15

WORLD JOURNAL OF EMERGENCY SURGERY

REVIEW **Open Access**

Position paper: timely interventions in severe acute pancreatitis are crucial for survival

Panu Mentula and Ari Leppäniemi*

« Indication for starting prophylactic antiobiotics should be based on clinical judgment»

THE STATE OF ART

Surg Infect (Larchmt). 2000 Summer;1(2):115-23; discussion 125-6.

Surgeons and infectious disease specialists: different attitudes towards antibiotic treatment and prophylaxis in common abdominal surgical infections.

Gorecki PJ[1], Schein M, Mehta V, Wise L.

Author information

Abstract

BACKGROUND: The role of medical infectious disease (ID) specialists in the treatment of surgical infections is increasing but no information is available regarding the therapeutic perception held by these non-surgeons treating surgical infections. The purpose of this study was to assess the attitude of the ID specialists towards antibiotic treatment and prophylaxis of common abdominal surgical infections and to compare it with that of surgeons "interested" in this field.

METHODS: A questionnaire, polling opinions regarding the management of common surgical infections, was sent to 396 medical ID specialists (New York State) and 515 surgeon members of the Surgical Infection Society (SIS). The questions covered areas involving choice of antibiotics, and timing and duration of treatment in given clinical scenarios, including elective and emergent colorectal surgery, perforated peptic ulcer, and appendicitis.

RESULTS: Response rates for the medical and surgical groups were 10.1% and 15.6%, respectively. Regarding prophylactic use of antimicrobials, the pattern of administration was similar for the two groups. Regarding therapeutic use, on average medical ID specialists used antibiotics twice as long as the surgical group. The main reason identified was the failure of medical ID specialists to understand the conceptual difference between contamination and infection.

CONCLUSIONS: Medical ID specialists may overtreat common surgical infections with antibiotics. Surgical infections should be treated by surgeons.

L'ESPERIENZA

IN CHIRURGIA D'URGENZA

G Chir Vol. 36 - n. 1 - pp. 15-20
January-February 2015

original article

Acute necrotizing pancreatitis: can tigecycline be included in a therapeutic strategy?

S. OCCHIONORELLI[1], L. MORGANTI[1], R. CULTRERA[2], D. ANDREOTTI[1], S. MACCATROZZO[1], L. CAPPELLARI[3], R. STANO[3], G. VASQUEZ[3]

SUMMARY: **Acute necrotizing pancreatitis: can tigecycline be included in a therapeutic strategy?**

S. OCCHIONORELLI, L. MORGANTI, R. CULTRERA, D. ANDREOTTI, S. MACCATROZZO, L. CAPPELLARI, R. STANO, G. VASQUEZ

Introduction. *Acute necrotizing pancreatitis is a severe and life-threatening disease. Infection, which occurs in about 30% of cases, is the most feared complication. Antibiotic therapy is still discussed and there are no clear recommendation in literature. These clinical series underline the importance of having a clear antibiotic protocol, including tigecycline, in the management of acute necrotizing pancreatitis.*

Clinical series. *Six patients with clinical and radiological diagnosis of necrotizing acute pancreatitis are treated in Emergency Surgery Department, following a conservative management, which includes fluid resuscitation, intensive care unit and radiological monitoring, ultrasound-guided percutaneous drainage and an antibiotic treatment protocol, that includes tigecycline. No one of the six patient undergo surgery (mean hospital stay: 44 days). In a six months follow-up all patients are alive and in good clinical conditions.*

Discussion. *Infection is the most important factor which determinate prognosis and outcome of acute necrotizing pancreatitis. Antibiotic prophylaxis is still discussed and there are no clear antibiotic treatment guidelines in literature. Despite its side effects on pancreatic gland, tigecycline is successful in resolution of sepsis, caused by infected pancreatic necrosis.*

Conclusions. *Collaboration with infectivologist and a clear antibiotic protocol is fundamental to solve infected necrosis. Antibiotic treatment, set up as soon as possible, is successful in our six patients, as they recover without undergoing surgical procedures. Tigecycline offers broad coverage and efficacy against resistant pathogens for the treatment of documented pancreatic necrosis infection. However, further studies are necessary to fully understand the safety profile and efficacy of tigecycline.*

I SEGRETI DEL SUCCESSO

Lavorare insieme

Parlare lo stesso linguaggio