



European Society of
Regional Anaesthesia
& Pain Therapy

ESRA ITALIA

ESRA Italian Chapter

XXVIII CONGRESSO NAZIONALE

PRESIDENTE
DEL CONGRESSO
Luciano Calderone





PALERMO 5-7 Ottobre
XXVIII CONGRESSO
NAZIONALE



**Angel catheter
non-pharmacological prevention of thromboembolism
Sicilian experience**

**ESRA 2023
PALERMO**



Antonio Iacono
Direttore Trauma Center AOR Villa Sofia - Cervello

The Surgeon General's Call to Action to Prevent Deep Vein Thrombosis and Pulmonary Embolism

2008



Issue date: January 2010

Venous thromboembolism: reducing the risk

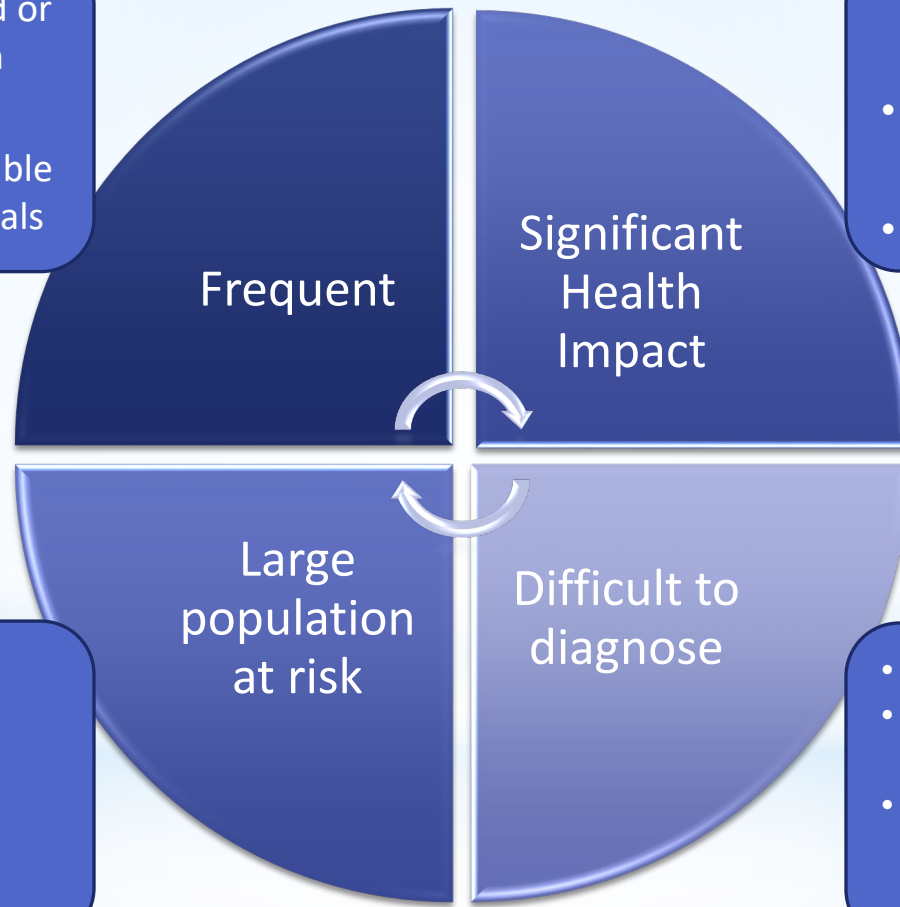
**Reducing the risk of venous
thromboembolism (deep vein thrombosis
and pulmonary embolism) in patients
admitted to hospital**

**This guideline updates NICE clinical
guideline 46 and replaces it**

* VTE: Magnitude of the Problem

- Over 350,000 confirmed or suspected cases of PE in US* and in the EU
- Most common preventable cause of death in hospitals

- High Morbidity and Mortality
- Expensive diagnosis and treatment
- Call for action



- Highest risk factor is a critical care hospital admission

- Few symptoms
- First manifestation can be a massive PE
- Up to 14% of autopsies in ICU patients have massive or submassive PE**

* Tapson VF> N Engl J Med 2008; 358:1037-1052

**Berlot G., Journal of Critical Care; 2011:26, 28 -33

The Critically Ill Patient: “The last frontier for thromboprophylaxis”

➤ Highest risk for PE and Complications of Anticoagulation

Critical Care Admissions

The highest risk patient are the ones admitted to the ICU.

- Neurosurgery
- Spinal Cord Injury
- Major Severe Trauma
- MICU patients with PE or DVT
- MICU patients with severe sepsis, and MOSF

High risk VTE

Up to 30% of critically ill patients are at high risk of PE

Approximately 39% of total PE cases are treated in the ICU

PE occurs in 15-32% of the patients with DVT

Prophylaxis for DVT is recommended for almost all the patients admitted to the ICU but used in only 50%

Despite prophylaxis, 5-10% develop VTE after the ICU admission

High risk of Bleeding

Rates of major bleeding in ICU patients may be as high as 20%

Risk increased due to conditions such as surgery, coagulopathy, renal insufficiency, sepsis, liver disease

In non ICU patients approximately, 8% with VTE have a major bleeding within 30 days.

*The Critically Ill Patient: ACCP Guidelines

High Thrombosis Risk

- * Anticoagulant thromboprophylaxis with
 - * LMWH,
 - * Regular Heparin
 - * Fondaparinux
- * Grade 1: Strong Recommendation

High Bleeding Risk

- * Against anticoagulant thromboprophylaxis
 - * Grade 1B: Strong Recommendation
- * Optimal use of mechanical thromboprophylaxis rather than no mechanical thromboprophylaxis.
 - * Grade 2C: Weak Recommendation



*The PROTECT Study

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Dalteparin versus Unfractionated Heparin in Critically Ill Patients

The PROTECT Investigators for the Canadian Critical Care Trials Group and the
Australian and New Zealand Intensive Care Society Clinical Trials Group

Exclusion Criteria

- Major Trauma
- Neurosurgery or Orthopedic Surgery
- Need for therapeutic anticoagulation
- Heparin administration in the last 3 days
- Contraindication to heparin
- Life support limitation
- Pregnancy

METHODS

STUDY DESIGN

The trial was conducted in 67 ICUs in academic and community hospitals in Canada, Australia, Brazil, Saudi Arabia, the United States, and the United Kingdom. Recruitment began in May 2006 and, as projected, was completed in 4 years. The trial protocol is available with the full text of this article at NEJM.org.⁷

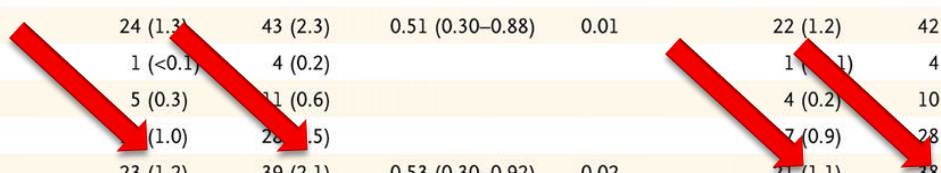
PATIENTS

We enrolled patients who were at least 18 years of age, weighed at least 45 kg, and were expected to remain in the ICU for at least 3 days. Exclusion criteria were major trauma, neurosurgery or orthopedic surgery, need for therapeutic anticoagulation, heparin administration in the ICU for at least 3 days, contraindication to heparin or blood products, pregnancy, life-support limitation, or enrollment in a related trial. Research coordinators obtained written informed consent from all patients or their designated surrogates.

Venous Thromboembolic Outcomes.

Table 3. Venous Thromboembolic Outcomes.

Outcome	Intention-to-Treat Analysis				As-Treated Analysis			
	Dalteparin (N=1873)	Unfractionated Heparin (N=1873)	Hazard Ratio (95% CI)	P Value	Dalteparin (N=1827)	Unfractionated Heparin (N=1832)	Hazard Ratio (95% CI)	P Value
	no. (%)				no. (%)			
Deep-vein thrombosis								
Proximal	96 (5.1)	109 (5.8)	0.92 (0.68–1.23)	0.57	94 (5.1)	108 (5.9)	0.91 (0.68–1.23)	0.54
Any	138 (7.4)	161 (8.6)	0.93 (0.72–1.19)	0.54	135 (7.4)	160 (8.7)	0.92 (0.72–1.19)	0.54
Pulmonary embolism								
Any	24 (1.3)	43 (2.3)	0.51 (0.30–0.88)	0.01	22 (1.2)	42 (2.3)	0.48 (0.27–0.84)	0.01
Possible	1 (<0.1)	4 (0.2)			1 (<0.1)	4 (0.2)		
Probable	5 (0.3)	11 (0.6)			4 (0.2)	10 (0.5)		
Definite	18 (1.0)	28 (1.5)			17 (0.9)	28 (1.5)		
Definite or probable	23 (1.2)	39 (2.1)	0.53 (0.30–0.92)	0.02	21 (1.1)	38 (2.1)	0.49 (0.28–0.88)	0.02
Any venous thromboembolism	154 (8.2)	186 (9.9)	0.87 (0.69–1.10)	0.24	150 (8.2)	184 (10.0)	0.87 (0.69–1.10)	0.24
Venous thromboembolism or death	530 (28.3)	589 (31.4)	0.89 (0.79–1.01)	0.07	511 (28.0)	575 (31.4)	0.89 (0.78–1.004)	0.06



The PROTECT Investigators for the Canadian Critical Care Trials Group and the Australian and New Zealand Intensive Care Society Clinical Trials Group. *N Engl J Med* 2011;364:1305-1314.



Venous Thromboembolic Outcomes.

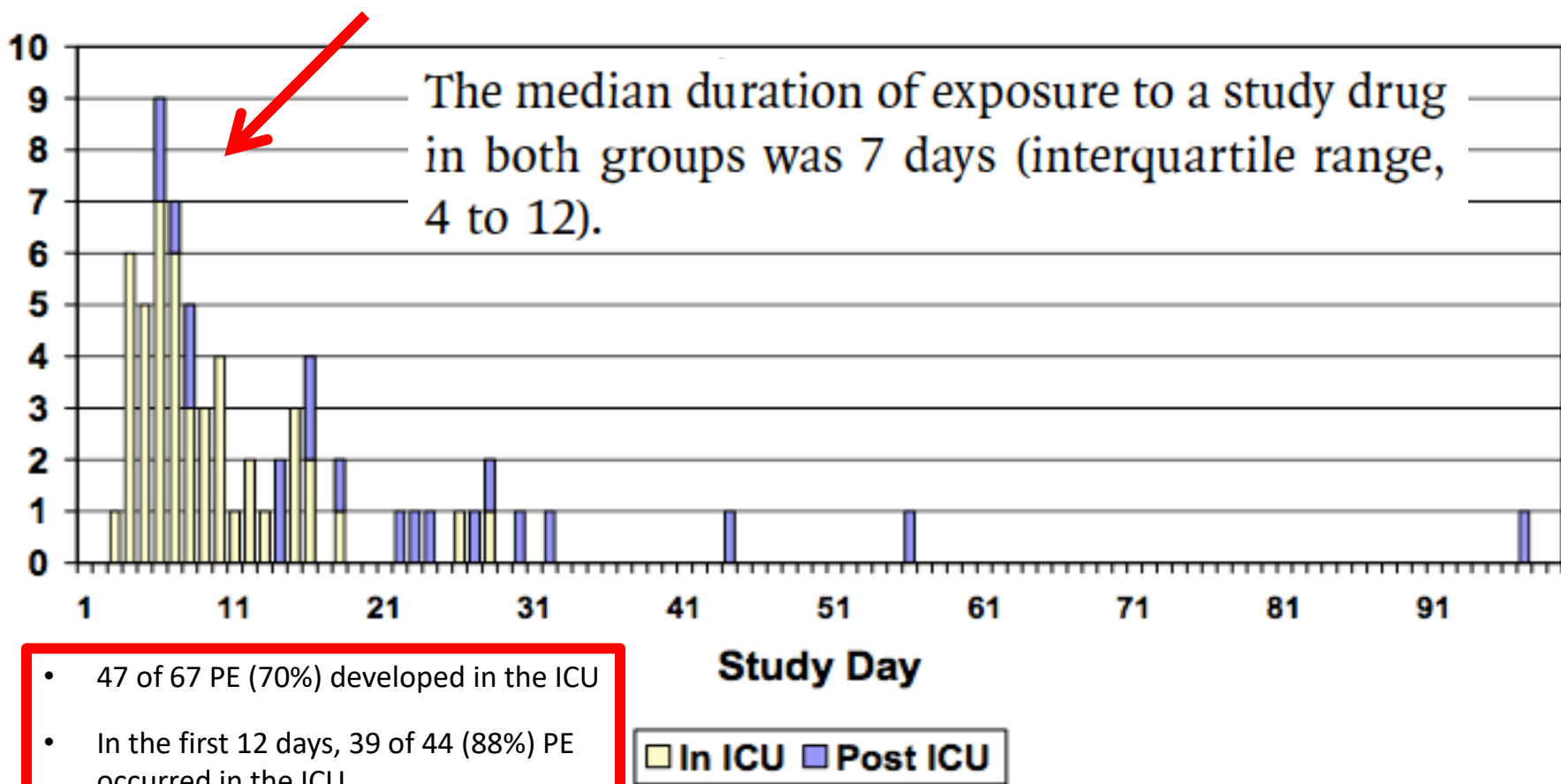
Table 4. Other Outcomes.*

Outcome	Intention-to-Treat Analysis				As-Treated Analysis			
	Dalteparin (N=1873) no. (%)	Unfractionated Heparin (N=1873) no. (%)	Hazard Ratio (95% CI)	P Value	Dalteparin (N=1827) no. (%)	Unfractionated Heparin (N=1832) no. (%)	Hazard Ratio (95% CI)	P Value
Bleeding								
Major	103 (5.5)	105 (5.6)	1.00 (0.75–1.34)	0.98	100 (5.5)	105 (5.7)	0.98 (0.73–1.31)	0.88
Any	244 (13.0)	247 (13.2)	1.01 (0.84–1.21)	0.93	236 (12.9)	247 (13.5)	0.98 (0.81–1.18)	0.83
Heparin-induced thrombocytopenia	5 (0.3)	12 (0.6)	0.47 (0.16–1.35)	0.16	5 (0.3)	12 (0.7)	0.47 (0.16–1.37)	0.17
Death								
In intensive care unit	284 (15.2)	304 (16.2)	0.97 (0.82–1.15)	0.71	268 (14.7)	293 (16.0)	0.95 (0.79–1.13)	0.53
In hospital	414 (22.1)	459 (24.5)	0.92 (0.80–1.05)	0.21	396 (21.7)	446 (24.3)	0.90 (0.78–1.04)	0.15
	<i>median (interquartile range)</i>				<i>median (interquartile range)</i>			
No. of days of invasive mechanical ventilation	6 (3–12)	6 (3–12)	NA	0.49†	6 (3–12)	6 (3–13)	NA	0.43†
No. of days in intensive care unit	9 (6–15)	9 (6–16)	NA	0.26†	9 (6–16)	10 (6–16)	NA	0.18†
No. of days in hospital	21.5 (13–39)	21 (13–41)	NA	0.51†	22 (13–39)	21 (13–41)	NA	0.47†

* NA denotes not applicable.

† This P value was calculated with the use of the Wilcoxon rank-sum test.

PULMONARY EMBOLISM



- 47 of 67 PE (70%) developed in the ICU
- In the first 12 days, 39 of 44 (88%) PE occurred in the ICU
- Peak incidence of PE was day 6

CONFIDENTIAL

10

*SVIR and ACCP

Guidelines for the Use of Retrievable and Convertible Vena Cava Filters: Report from the Society of Interventional Radiology Multidisciplinary Consensus Conference

John A. Kaufman, MD, Thomas B. Kinney, MD, Michael B. Streiff, MD, Ronald F. Sing, DO, Mary C. Proctor, MS, Daniel Becker, MD, MPH, Mark Cipolle, MD, PhD, Anthony J. Comerota, MD, Steven F. Millward, MD, Frederick B. Rogers, MD, David Sacks, MD, and Anthony C. Venbrux, MD

EDITOR'S NOTE: Endorsed by the American Venous Forum.

Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines

Michael K. Gould, MD, FCCP; David A. Garcia, MD; Sherry M. Wren, MD; Paul J. Karanicolas, MD, PhD; Juan I. Arcelus, MD, PhD; John A. Heit, MD; and Charles M. Samama, MD, PhD, FCCP

- Some patients with indications for vena cava filters have **limited periods of risk of clinically significant PE and/or contraindication to anticoagulation and may not require permanent protection from PE with a vena cava filter.**
- **Discontinuation of filtration should only occur when the risk of clinically significant PE is reduced** to an acceptable level and is estimated to be less than the risk of leaving the filter in situ

- Filter placement was associated with a **78% reduction in the odds of symptomatic or asymptomatic PE at day 12**, but after 2 years, there was an 87% increase in the odds of DVT
- We recommend placement of an IVC filter for patients with **VTE or at very high risk of VTE and for whom mechanical and pharmacologic VTE prophylaxis is contraindicated** (Grade 1C)
- Grade 1C: Strong recommendation with low quality evidence: Desirable effects outweighs the risk.

J Vasc interv Radiol 2006;17:449-459

CHEST 2012; 141(2)(Suppl):e227S-

*Risks and Benefits of IVC Filters

CLINICAL STUDY

Systematic Review of the Use of Retrievable Inferior Vena Cava Filters

Luis F. Angel, MD, Victor Tapon, MD, Richard E. Galgon, MD, MS, Marcos I. Restrepo, MD, MS, and John Kaufman, MD

ABSTRACT

Purpose: To review the available literature on retrievable inferior vena cava (IVC) filters to examine the effectiveness and risks of these devices.

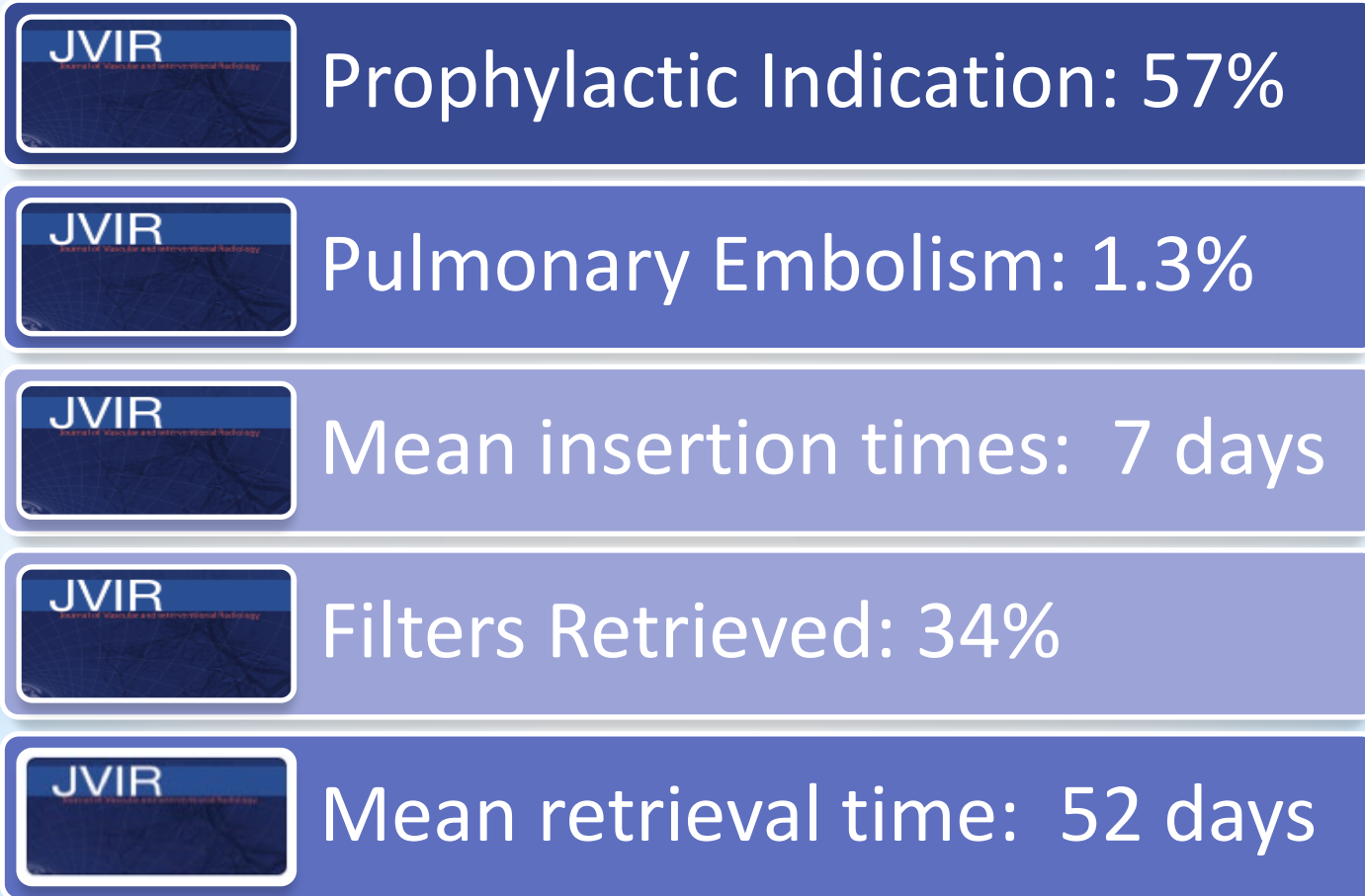
Materials and Methods: Investigators searched MEDLINE for clinical trials evaluating retrievable filters and reviewed the complications reported to the Manufacturer and User Facility Device Experience (MAUDE) database of the U.S. Food and Drug Administration (FDA).

Results: Eligibility criteria were met by 37 studies comprising 6,834 patients. All of the trials had limitations, and no studies were randomized. There were 11 prospective clinical trials; the rest were retrospective studies. Despite the limitations of the evidence, the IVC filters seemed to be effective in preventing pulmonary embolism (PE); the rate of PE after IVC placement was 1.7%. The mean retrieval rate was 34%. Most of the filters became permanent devices. Multiple complications associated with the use of IVC filters were described in the reviewed literature or were reported to the MAUDE database; most of these were associated with long-term use (> 30 days). At the present time, the objective comparison data of different filter designs do not support superiority of any particular design.

Conclusions: In high-risk patients for whom anticoagulation is not feasible, retrievable IVC filters seem to be effective in preventing PE. Long-term complications are a serious concern with the use of these filters. The evidence of the effectiveness and the risks was limited by the small number of prospective studies.

J Vasc Interv Radiol 2011; 22:1522–1530

*Retrievable Vena Cava



*The IVC Filter Risk:



ALN



Meridian



Optease



Tulip



Celect

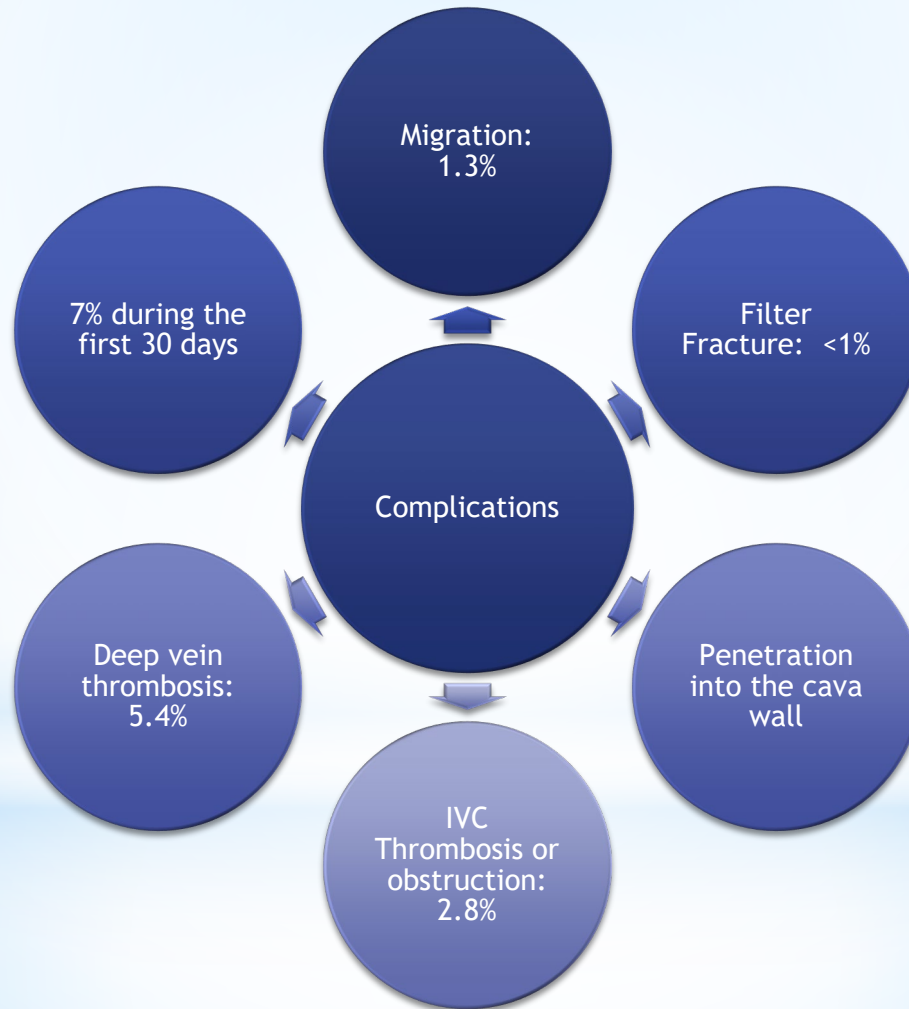
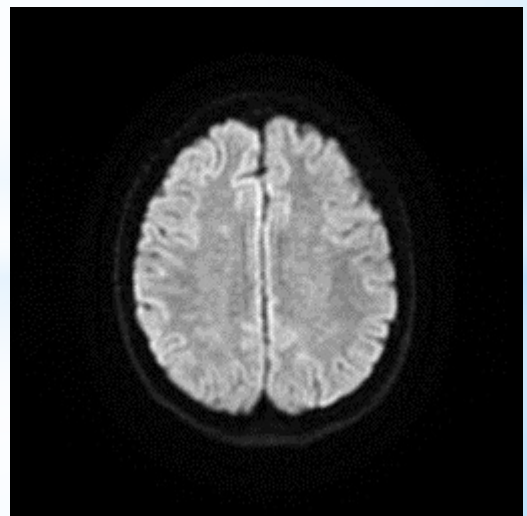
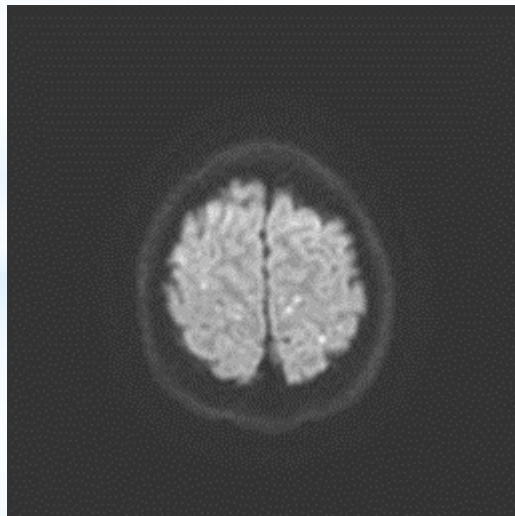
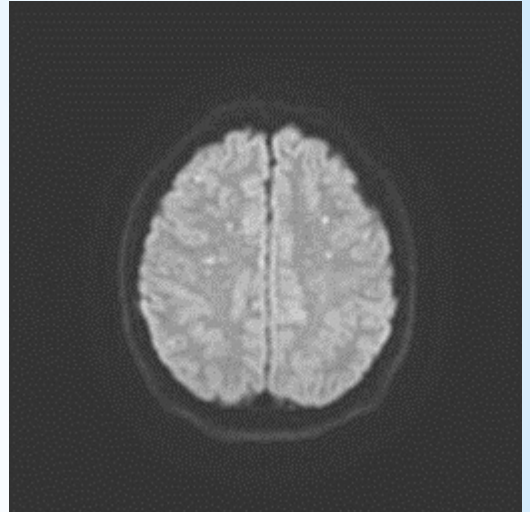
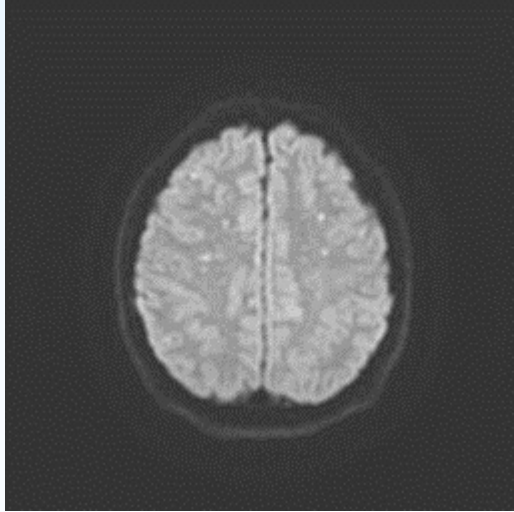
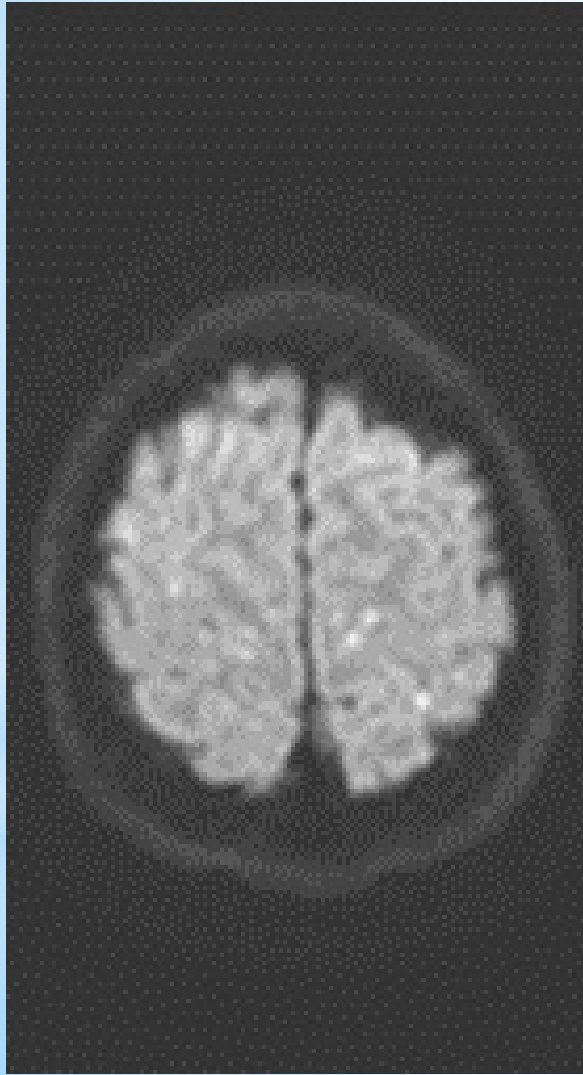


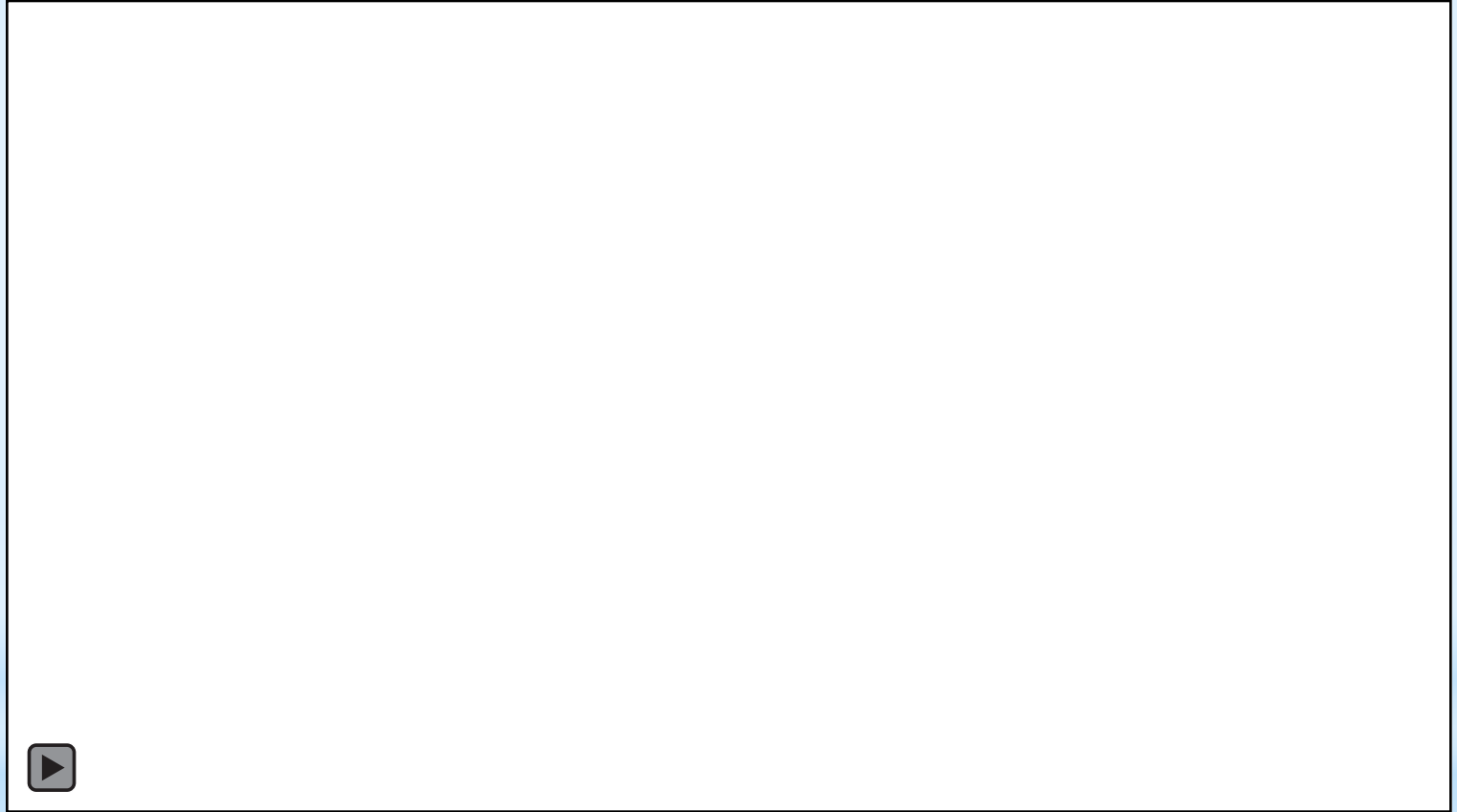


Figure 1A

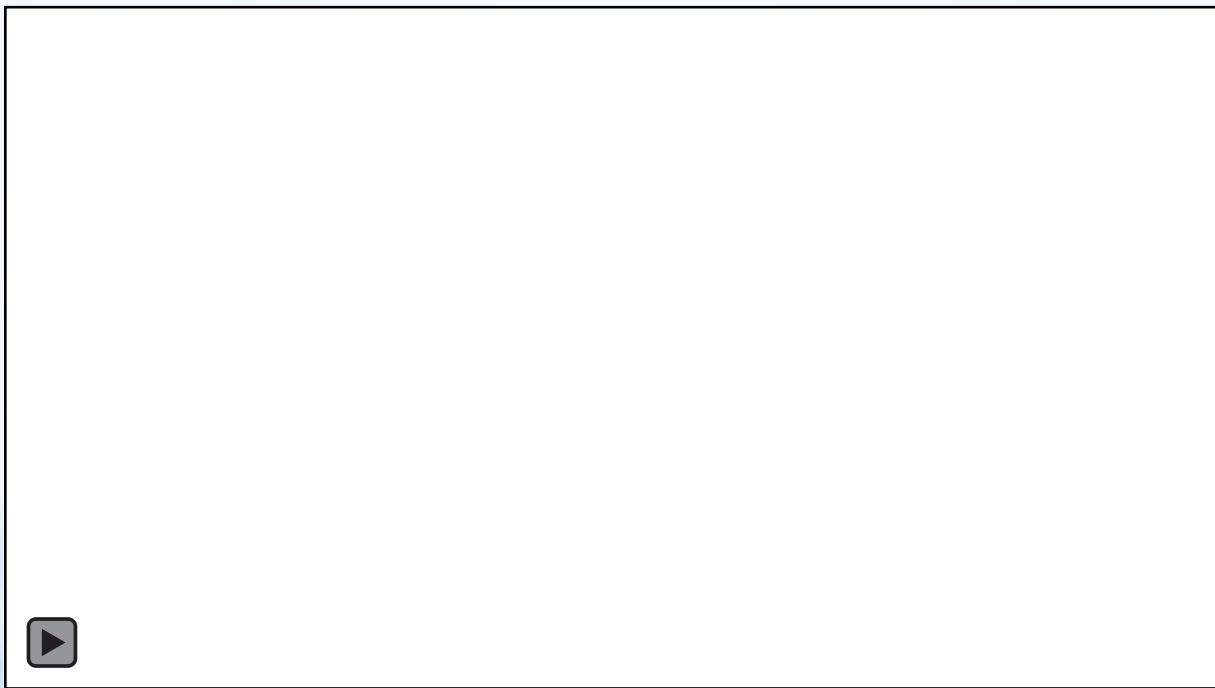


Figure 1B









The Effectiveness of Prophylactic IVC Filters in Trauma Patients: A Systematic Review and Meta-analysis

Figure 2. Forest Plot of Relative Risk (RR) of Pulmonary Embolism (PE) With Use of Inferior Vena Cava (IVC) Filters vs No IVC Filters in Trauma Patients

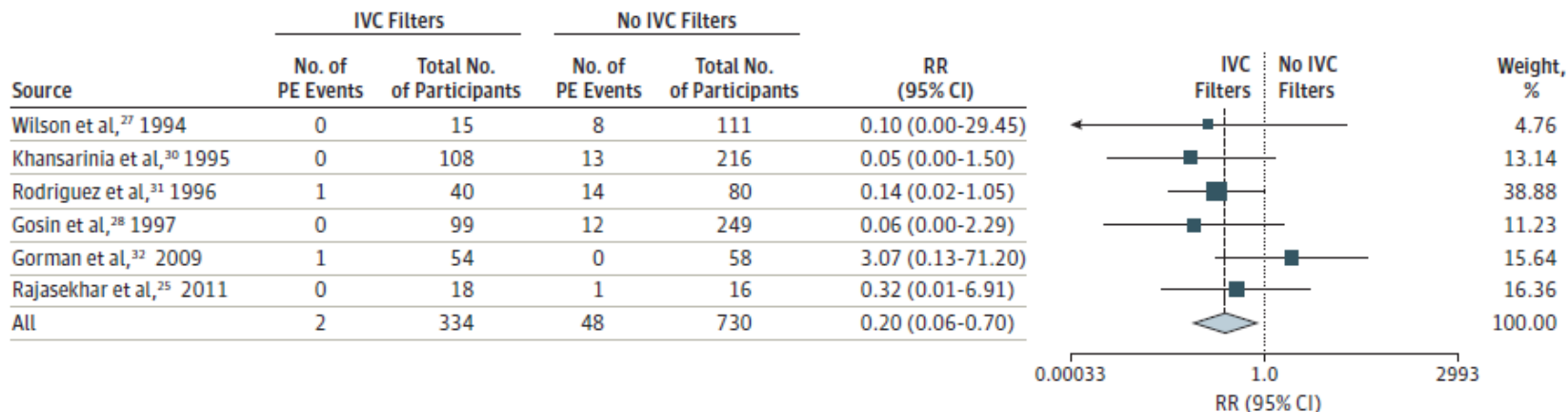
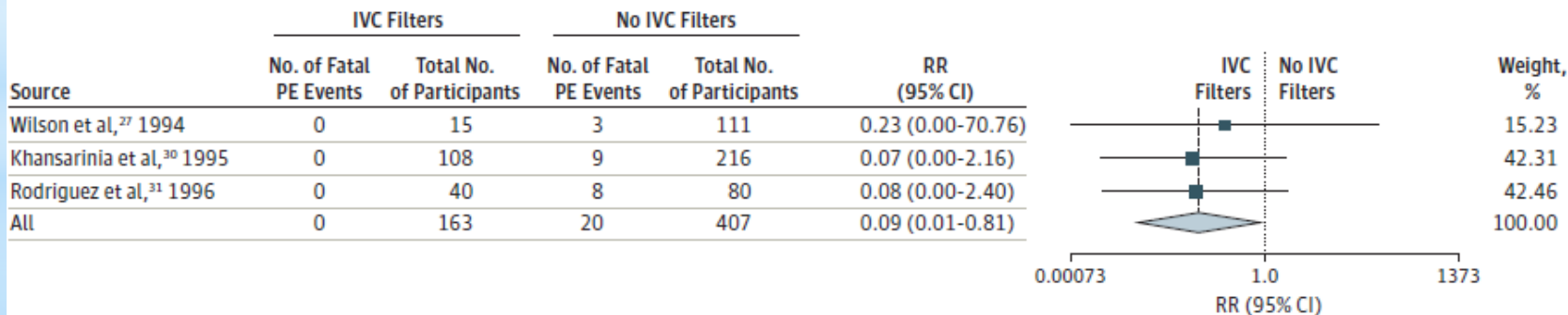


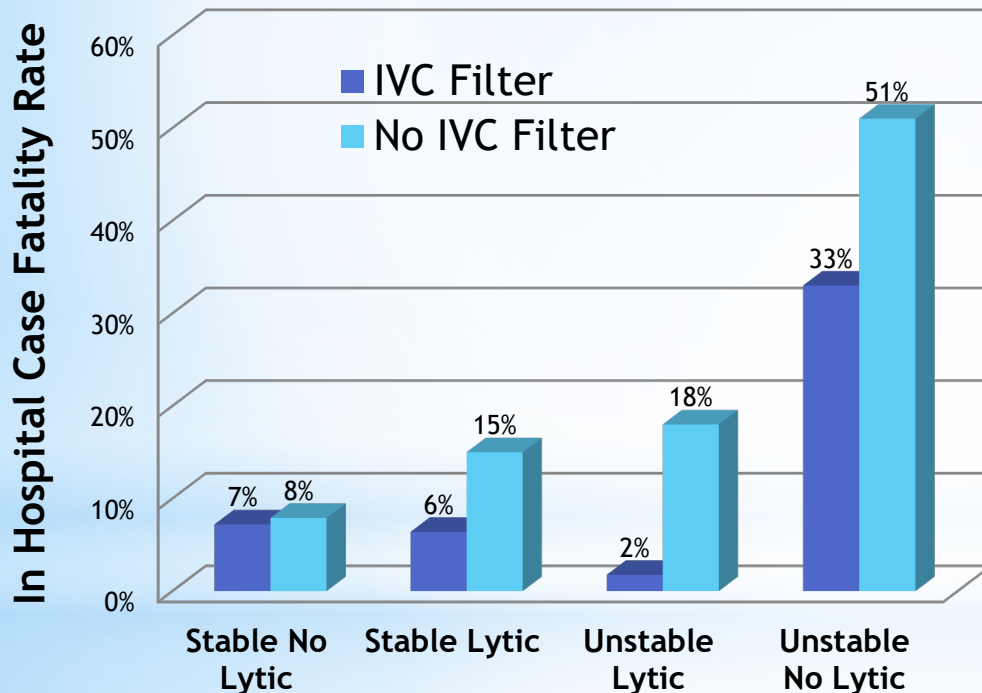
Figure 3. Forest Plot of Relative Risk (RR) of Fatal Pulmonary Embolism (PE) With Use of Inferior Vena Cava (IVC) Filters vs No IVC Filters in Trauma Patients



Forest Plot of Relative Risk (RR) of Pulmonary Embolism (PE) and Fatal Pulmonary Embolism

The Effectiveness of IVC Filters in Patients with Pulmonary Embolism

In Hospital Mortality in PE patients



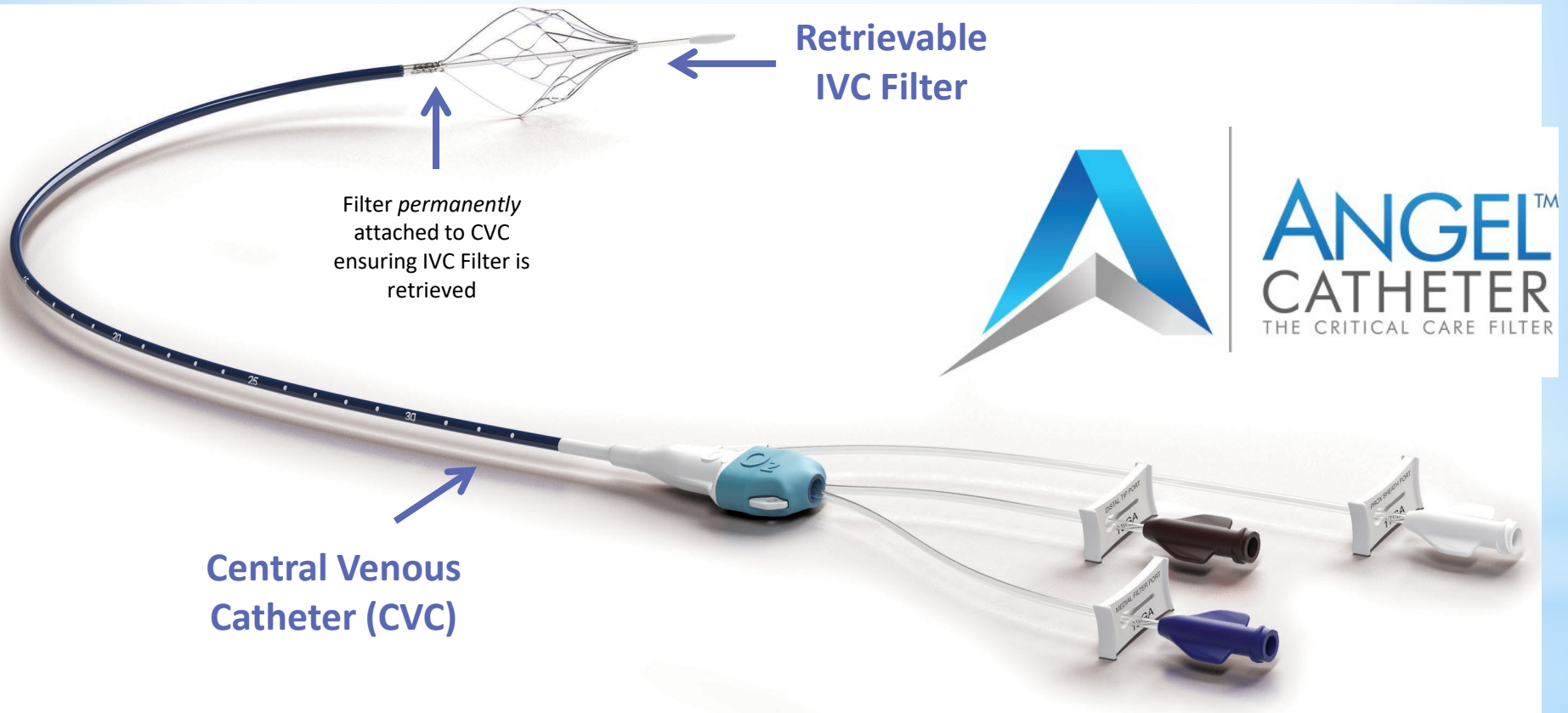
Am J Med. 2012 May;125(5):478-84

Mortality in Patients with Unstable Pulmonary Embolism

Therapy	No. Treated	Hospital Mortality
Anticoagulants alone	38000	51%
Anticoagulants with VCF	23850	33%
Embolectomy alone	430	58%
Embolectomy with VCF	520	25%
Thrombolytic RX alone	14760	18%
Thrombolytic RX with VCF	6630	7.60%

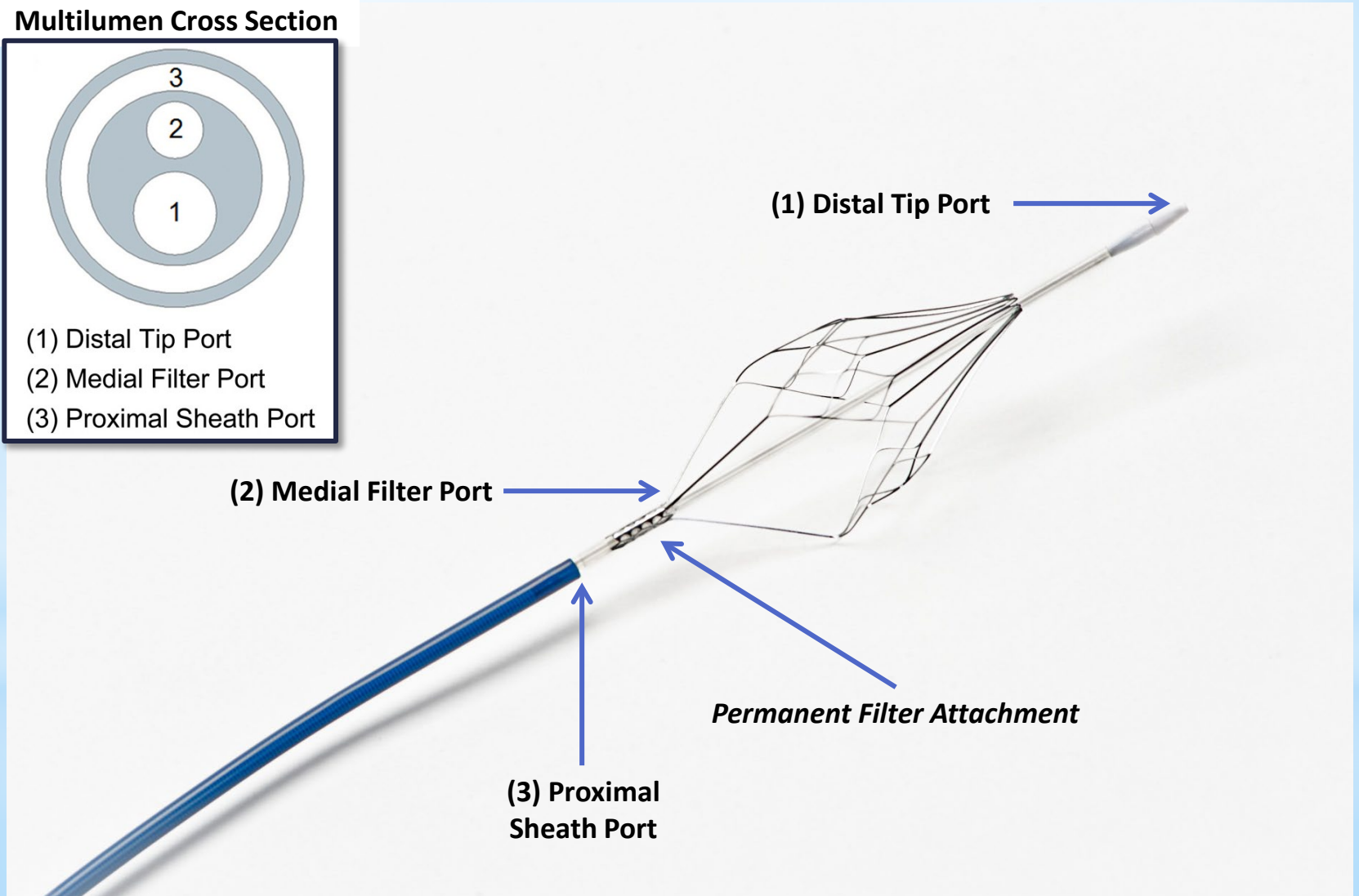
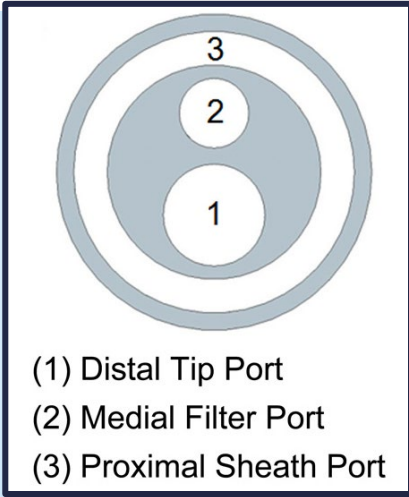
Am J Med. 2013 Oct;126(10):851-2

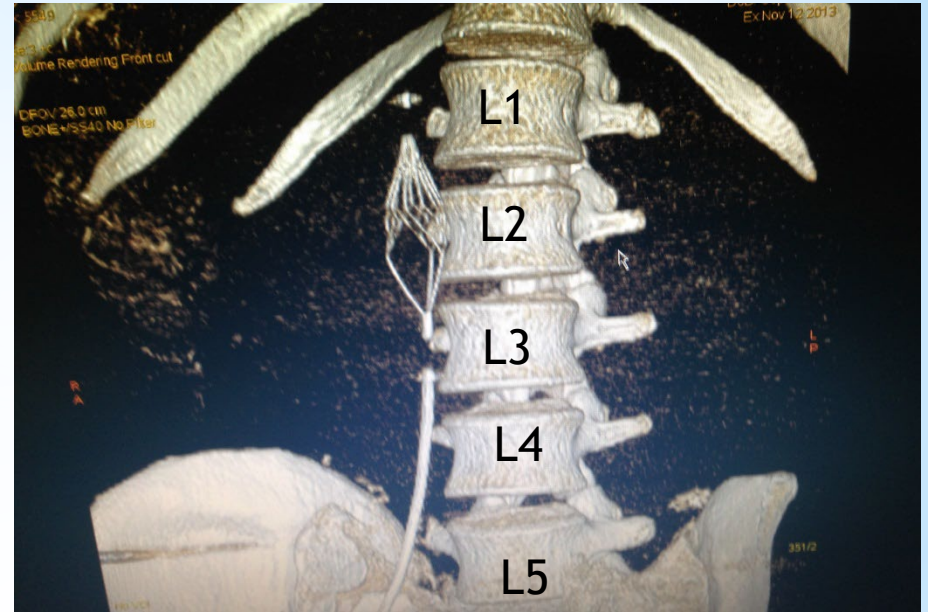
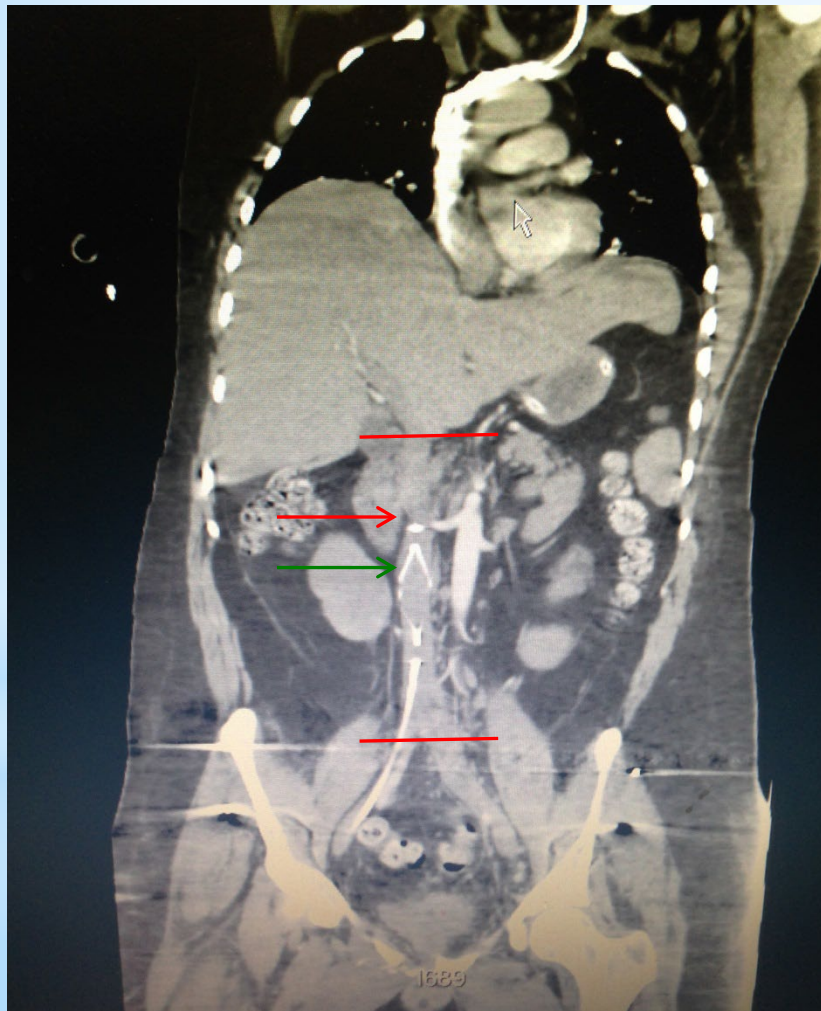
*The Angel™ Catheter



The Angel® Catheter

Multilumen Cross Section





Bedside Filter Positioning

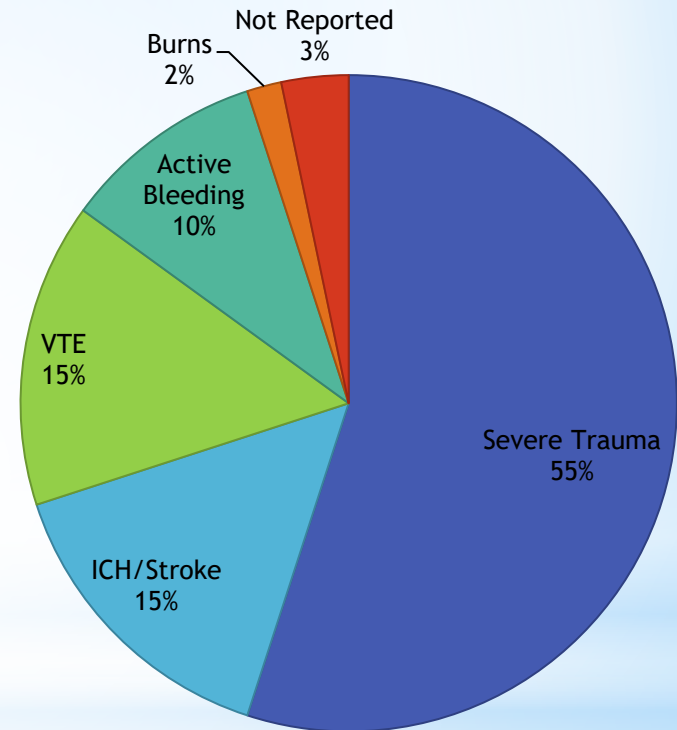


* World Wide Initial Clinical
Experience with the Angel®
Catheter

*The Angel® Catheter Experience

Table 1. Baseline Characteristics of the Patient Population.

Characteristic	Angel® Catheter (n=60)
Age (yrs)	44 ± 17
Male sex (%)	39 (65%)
Body mass index†	26 ± 6
Length of Hospital Stay (days)	35±43
Main ICU diagnosis before insertion of the Angel® Catheter-- no (%)	
Severe Trauma	33 (55%)
Intra-cerebral Bleeding or Stroke	9 (15%)
Venous Thromboembolism	9 (15%)
Active Bleeding	6 (10%)
Burns	1 (1.7%)
Not reported	2 (3.3%)
Classification of Severe Trauma® (n=33)	
Head or brain injury	22 (66.7%)
Multiple > 2 long bone fractures	10 (30.3%)
Pelvic Fracture	12 (36.4%)
One long bone fracture	6 (18.2%)
Severe Trauma with associated PE	3 (9.1%)
Thoracic or abdominal trauma	2 (6.1%)
Spinal Injury with or without paralysis	2 (6.1%)
Classification of VTE Disease before insertion of the Angel® Catheter (n=13)	
Acute Pulmonary Embolism	9 (15%)
Deep Vein Thrombosis	7 (11.7%)



A device for the
prevention of pulmonary
embolism
in critically ill patients:
Results of the European
Angel

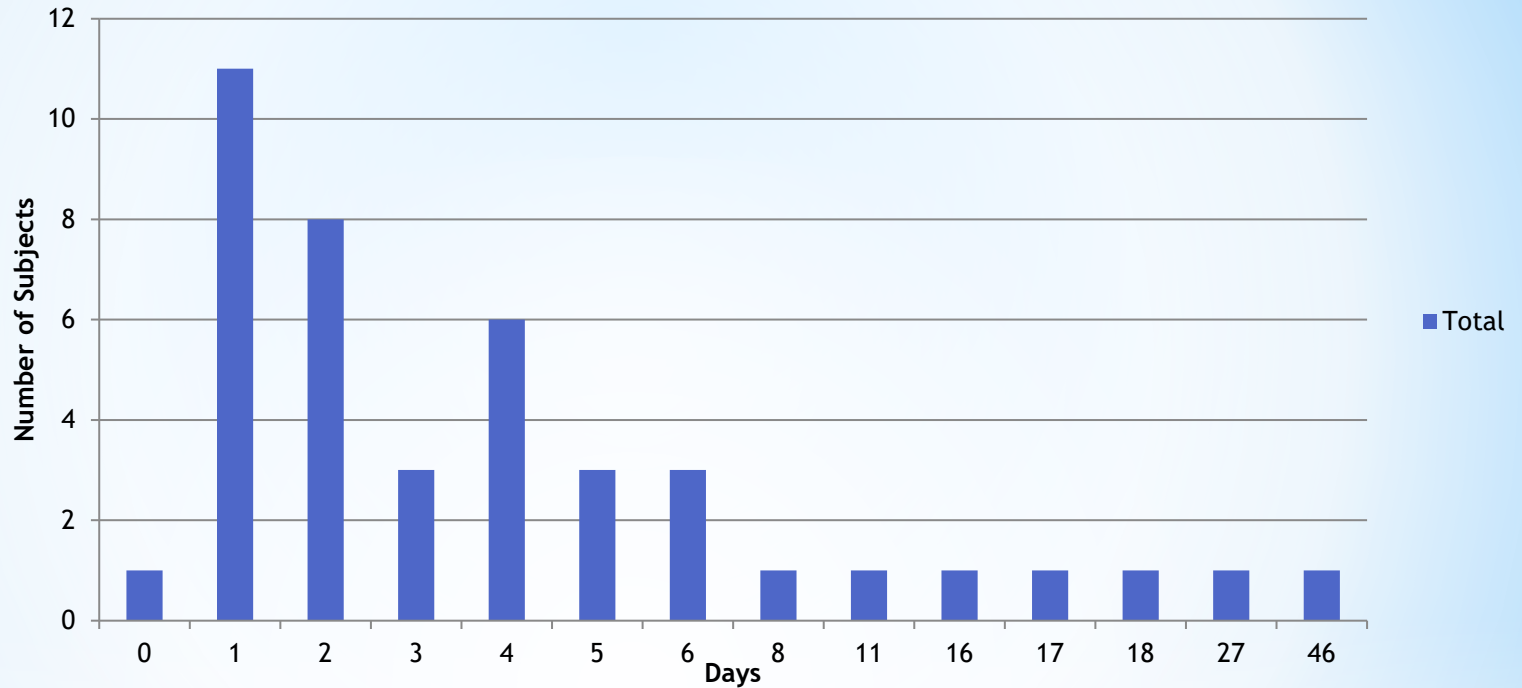
Catheter Registry

Fabio S. Taccone, MD, PhD, Nicholas Bunker,
MD, Carl Waldmann, MA, MB, BChir,
Daniel De Backer, MD, PhD, Karim Brohi, MD,
Robert G. Jones, MRCP,
and Jean-Louis Vincent, MD, PhD, Brussels,
Belgium

In this European multicenter registry study, we demonstrate that bedside insertion of the IVC filter YCVC is safe and that the device may be a valid alternative for PE prophylaxis in a high-risk population of severely ill patients with contraindications to anticoagulation therapy. For patients with contraindications to anticoagulation

Characteristic	Angel® Catheter (n=60)
Indications for Angel® Catheter Placement	
Therapeutic Indication (Previous PE)	9(15%)
PE when anticoagulants are contraindicated	8(13.3%)
PE with no contraindication to anticoagulation but with a concomitant DVT undergoing embelectomy	1(1.6%)
Prophylactic Indication (No previous PE)	51(85%)
Critically ill patient at high risk of PE, not receiving medical thromboprophylaxis due to either increased risk of bleeding, active bleeding, or heparin induced thrombocytopenia	46 (65%)
Patient is critically ill requiring (≥24 hours) interruption of medical thromboprophylaxis	3 (5%)
PE prevention for a DVT undergoing embelectomy	1(1.6%)
Deep vein thrombosis	1(1.6%)

101 026:



* Duration Between
Hospital Admission and
Catheter insertion



* Conclusion

- * PE is a significant health issue in hospitalized patients.
 - * The critically ill patient is at the highest risk.
- * Prophylactic anticoagulation is the best studied and most recommended prophylactic measure
 - * It can not be used in all the patients
 - * It is not universally effective
 - * Increases the risk of bleeding.
- * The Angel® Catheter offers a
 - * An IVC filter that can be easily placed bedside
 - * Is removed in all the patients when the risk of PE is lower and/or anticoagulation can be started.
 - * A fully functional triple lumen catheter for volume resuscitation, medicine administration and central venous pressure monitoring.

* Polytrauma of year 22 MOTORCYCLE road accident
the patient already intubated presents serious
hemodynamic instability PAO 60/30 FC 125b/m'
arrival at the shock room on
02/08/2020

A protocol is adopted for hemorrhagic states in POLYTRAUMA

TRANEX 1gr IV within three hours of the trauma + FIBRIN 2 GR IV.

ECO fast positive for :



Free effusion in the peritoneum (HEMOPERITONEUM)

DAMAGE CONTROL SURGERY

The patient is sent to S.O. in urgency

At the xiphosubumbilical laparotomy, 400 cc of blood are aspirated and two large lacerated and contused lesions are observed in the liver parenchyma:

Lesion of approximately 6 cm between IV a and V lobe which is frankly bleeding

lesion of approximately 10 cm extending from the 5th to the 7th segment, also bleeding.

Floseal is applied and packing is carried out.

A large retroperitoneal hematoma was also found in the right kidney.

**hemodynamically stable
patient undergoes total body
CT scan with contrast medium**



Im: 146/287

Se: 3

A

PS OSPEDALE VILLA SOFIA PALERMO

TC ENCEFALO (senza e con contrasto) - TC TOR

R

L

WL: 650 WW: 2600 [D]
T: 1.3mm L: 83.5mm

P



Im: 186/287
Se: 3

A

PS OSPEDALE V.

TC ENCEFALO (senza e con contrasto) - TC TORACAC

R

L

WL: 650 WW: 2600 [D]
T: 1.3mm L: 133.5mm

P



A154

COM

021Y
M

R
1
4
0

L
1
3
6



PS OSPEDALE VILLA SOFIA PALERMO
W 100 : L 40
P122

D

FANFANI GIOVANNI

A154

COM

Im: 212/287
Se: 3

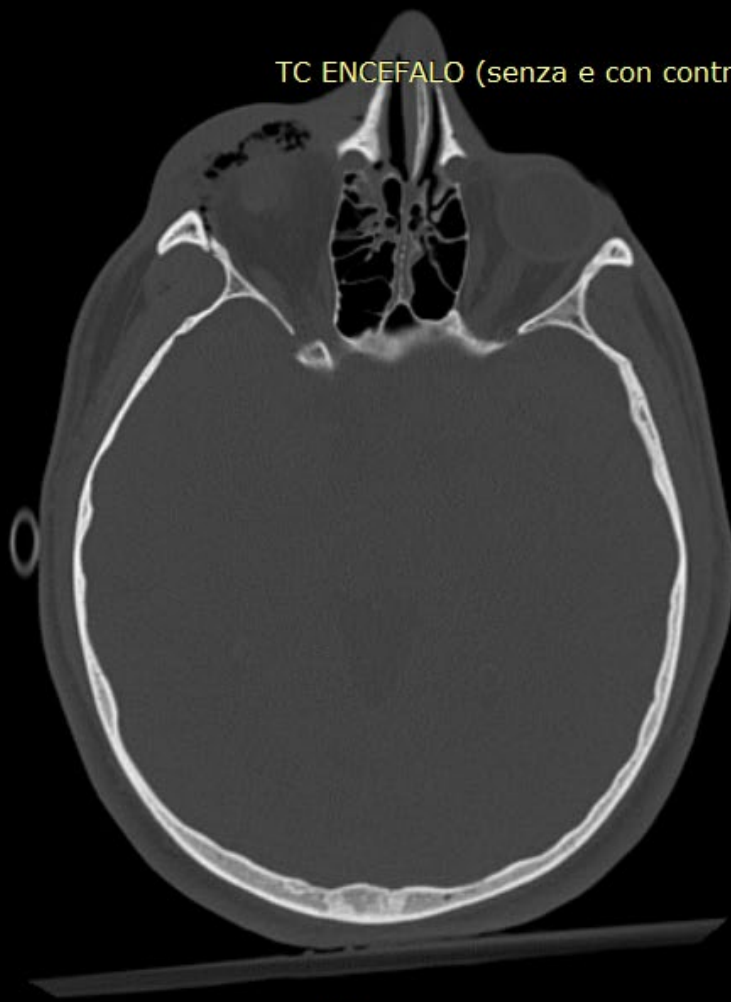
A

PS OSPEDALE VI

TC ENCEFALO (senza e con contrasto) - TC TORACE

R

L



P

WL: 650 WW: 2600 [D]
T: 1.3mm L: 166.0mm

Im: 13/396
Se: 10

A

PS OSPEDALE V

TC ENCEFALO (senza e con contrasto) - TC TORAC



R

L

P

WL: 100 WW: 600 [D]
T: 1.3mm L: -139.0mm

Im: 1/2
Se: 351

Oblique

FANARA GIOVANNI

PS OSPEDALE V.

L: 31.1 (coi)

Ex: Aug 02 2014

TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T
Immagini elaborate

DFOV 13.0 cm
STND/5560 No Filter

A
R

P
L

18.3/Vol.Render.
kW 120

1.2mm 1.375:1/1.25sp

WL: 128 WW: 256 [D]

W = 583 L = 235

I

Im: 1/1
Se: 355

Axial

FANARA GIOVANNI

A 65

PS OSPEDALE VILLA SOFIA PALERMO

I: 103.5
Im: 62

Ex: Aug 02 2014

46444

TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T

Immagini elaborate

DFOV 13,0 cm
STND/SS60 No Filter

R
3
2

L
9
8

1.25
kV 120

1.2mm 1.375:1/1.25sp

24.7 mm (2D)

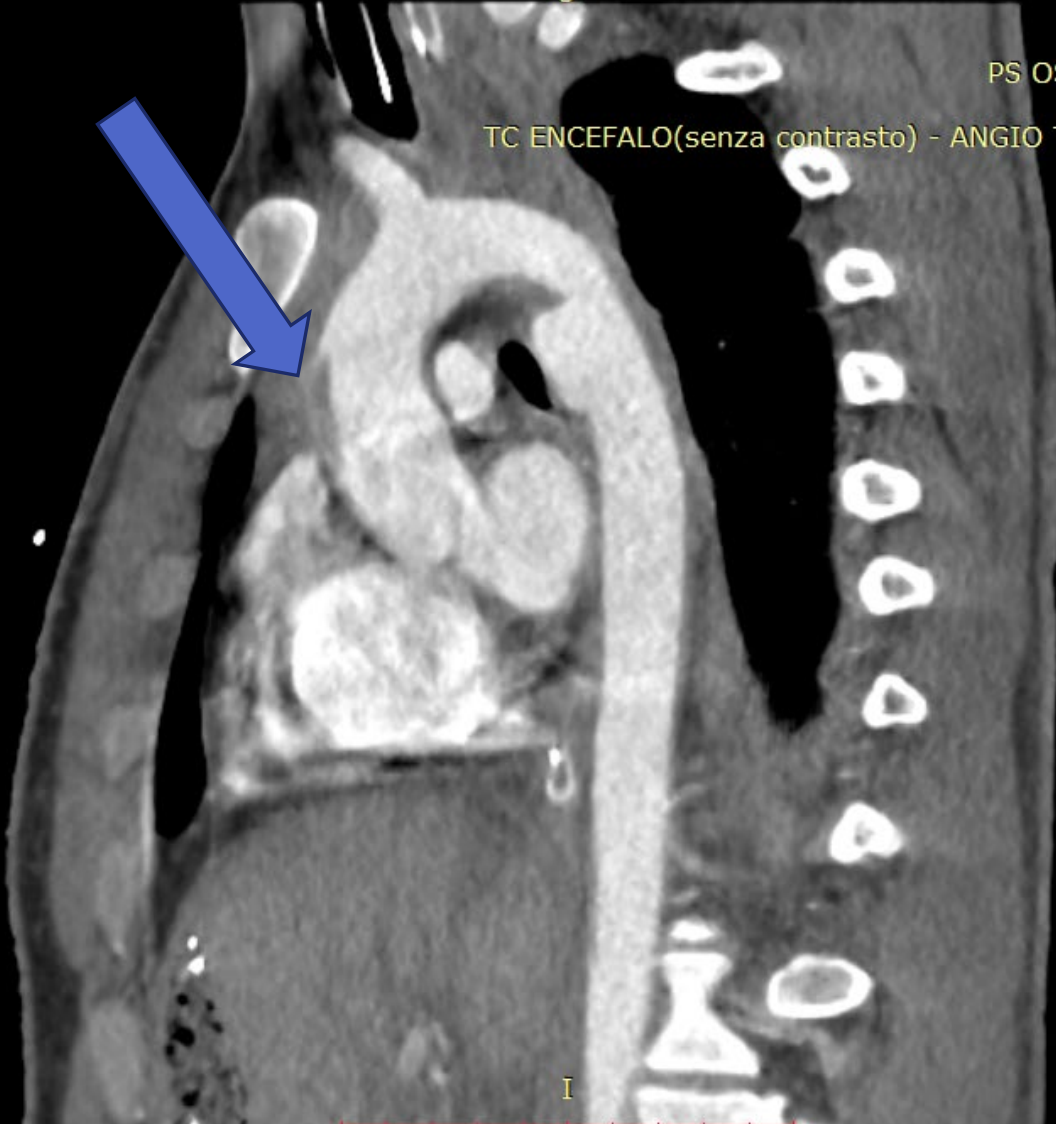
WL: 100 WW: 600 [D]

P 65

Im: 1/3
Se: 356



PS OSPEDALE VILLA SOFIA PALERMO
46444
TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T
Immagini elaborate



AR

PL

WL: 100 WW: 600 [D]
T: 0.7mm L: -30.9mm



Im: 1/1
Se: 4

DX
IMMOBILIZZATO

Az. Osp. Villa Sofia 1° Servizio Rad. Polichirurgico

RX TORACE IN 1 PROIEZ. - RX FEMORE DX - RX POLSO SN -
cranio AP (0)
^^^^

WL: 2048 WW: 4095 [D]

Im: 1/1
Se: 3



Az. Osp. Villa Sofia 1° Servizio Rad. Polichirurgico
RX TORACE IN 1 PROIEZ. - RX FEMORE DX - RX POLSO SN -
cranio AP (3)
^^^^

WL: 2048 WW: 4095 [D]

- ❖ The patient will have to undergo urgent stent placement thoracic aorta in the isthmic region
- ❖ He underwent non-definitive surgery for traumatic hemorrhagic liver lesions
- ❖ Femur and radius fractures

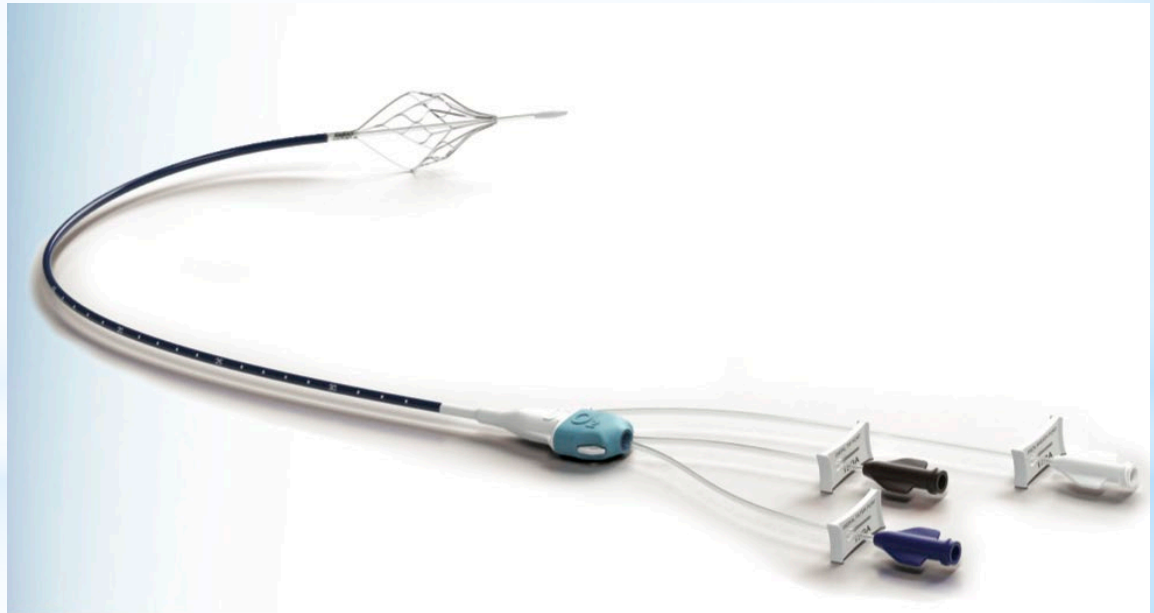
Esame	Esito		U.M.	Valori Riferimento
CHIMICA CLINICA AUTOMAT				
Glicemia	173	>	mg%	65 - 110
Azotemia	48		mg%	10 - 50
Sodio	141		mEq/L	135 - 145
Potassio	6.3	>	mEq/L	3.5 - 5
Cloro	108	>	mEq/L	90 - 106
Calcio	7.7	<	mg%	8.4 - 10.2
Creatininemia	1.1		mg%	0.7 - 1.2
Albuminemia	3.3	<	g%	3.4 - 4.8
Proteine Totali	4.6	<	g%	6.6 - 8.7
Bilirubina Totale	1.55	>	mg%	< 1.1
Bilirubina Diretta	1.05	>	mg%	0 - 0.4
Bilirubina Indiretta	0.5		mg%	0.2 - 0.7
Pseudocolinesterasi	3980	<	UI/l	5320 - 12920
Lipasi	317	>	UI/l	13 - 60
Amilasi	200	>	UI/l	0 - 100
GGT	126	>	UI/l	10 - 71
GOT	1223	>	UI/l	10 - 40
GPT	1061	>	UI/l	10 - 41
CPK	1308	>	UI/l	< 190
LDH	2445	>	UI/l	230 - 460
COAGULAZIONE				
Attività Protrombina	52	<	%	70 - 120
INR	1.23			Indicazioni:- trombosi ven. profonda- embolia polmonare- malattie arteriose incluse infarto del miocardio valore terapeutico: (2.0 -3-0)- valvole cardiache artif.- embolie sistemiche recidivanti valore terapeutico: (3.0 - 4.5)
PTT	48		sec.	12 - 45
Fibrinogeno	216		mg%	200 - 400
Anti Trombina III	90		%	75 - 125
D-Dimero	17.6	>	mcg/ml	0 - 0.5

Esame	Esito		U.M.	Valori Riferimento
EMATOLOGIA				
EMOCROMO				
Leucociti	9870		/mmc	4000 - 10000
Eritrociti	2400000	<	/mmc	4200000 - 5800000
Emoglobina	6.8	<	g/dl	13.5 - 17.5
Ematocrito	20.6	<	%	40 - 49
M c v	85.8		fL	80 - 96
M c h	28.3		pg	27 - 31
M c h c	33.0		g/dl	32 - 36
R d w	15.1	>	%	11 - 14
PIASTRINE	72000	<	/mmc	150000 - 400000
Pct	0.08	<	%	0.19 - 0.38
FORMULA LEUCOCITARIA				
Neutrofil %	84.9	>	%	40 - 74
Linfociti %	7.1	<	%	19 - 48
Monociti %	8.0		%	3.4 - 9
Eosinofili%	0.0		%	0 - 7
Basofili %	0.0		%	0 - 2
Neutrofil #	8380	>	/mmc	1900 - 8000
Linfociti #	699	<	/mmc	900 - 5200
Monociti #	790		/mmc	160 - 1000
Eosinofili#	0		/mmc	0 - 800
Basofili #	0		/mmc	0 - 200

Antithrombotic prophylaxis with heparin?



**We decide to place a central venous
catheter with caval filter attached to the
left femoral
In order to delay heparin therapy as much as
possible**



Im: 275/487
Se: 3

A

PS OSPEDALE VILLA SOFIA PALERMO
46444
TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T
ANGIO

R

L



WL: 100 WW: 600 [D]
T: 1.3mm L: -369.8mm

P

Im: 1/7
Se: 550

S

PS OSPEDALE VILLA SOFIA PALERMO
46444
TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T
Immagini elaborate

TC ENCEFALO(senza contrasto) - ANGIO TC AORTA TORACICA - ANGIO T

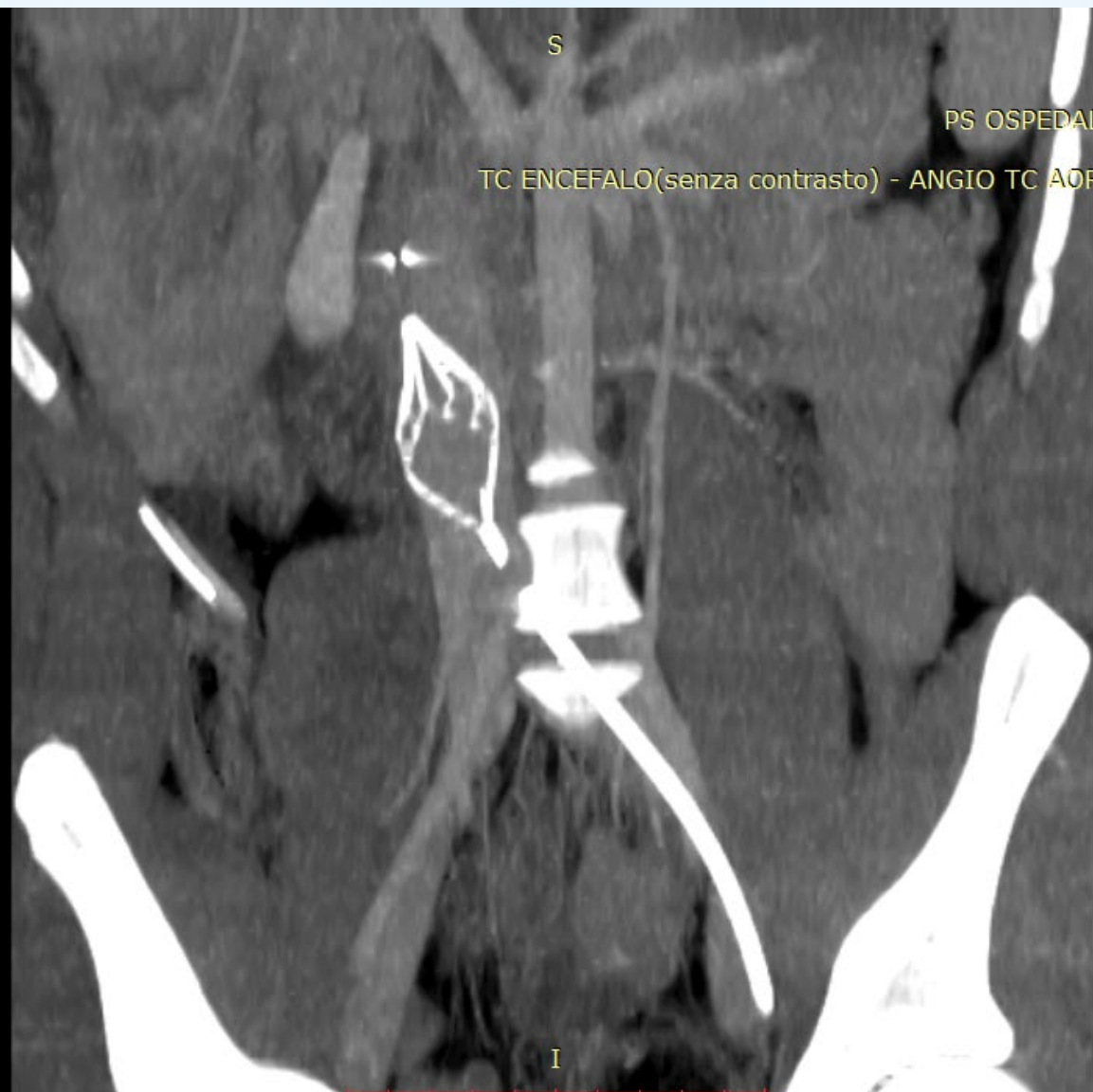
Immagini elaborate

R

L

WL: 190 WW: 428 [D]
T: 15.5mm L: -4.6mm

I



Im:11/4e
Se:550165

I 199 RAV
PS OSPEDALE VI

PS OSPEDALE VILLA SOFIA PALERMO
13165

Se:5 +c
P: 0.4

TC TORACE-ADDOME SUP.-INF. (senza e con contrasto) -
Immagini elaborate

DFOV 26.0 cm
STND/SS40 No Filter

R
1
2
9

L
1
3
0

60.0/Wol.Render.
kV 120
mA Mod.
Rot 0.60s/HE+ 39.4mm/rot
2.5mm 0.984:1/2.50sp
Tilt: 0.0

WB: 112820 WH 255 [D]
W = 391 L = 473

I 459

550/1

The patient is not initially treated with heparin therapy
a drug-eluting stent is positioned in the isthmic region of the aorta for initial
dissection



Stent positioning

Im: 1/56
Se: 20

A.O. Villa Sofia - Emodinamica
R201408041509173
Cardiaca
Coronaria sinistra 15fps

WL: 157 WW: 206 [D]
LAO: 39

On 05/08/2020 the patient underwent liver revision surgery and treated with autologous fibrin glue (Vivostat), synthesis of the right femur fracture (CTF nail) and synthesis of the left radial fracture.

After Two Days

Start antithrombotic prophylaxis therapy with seleparin 4000 IU

On 12/08/2020 angel catheter removal

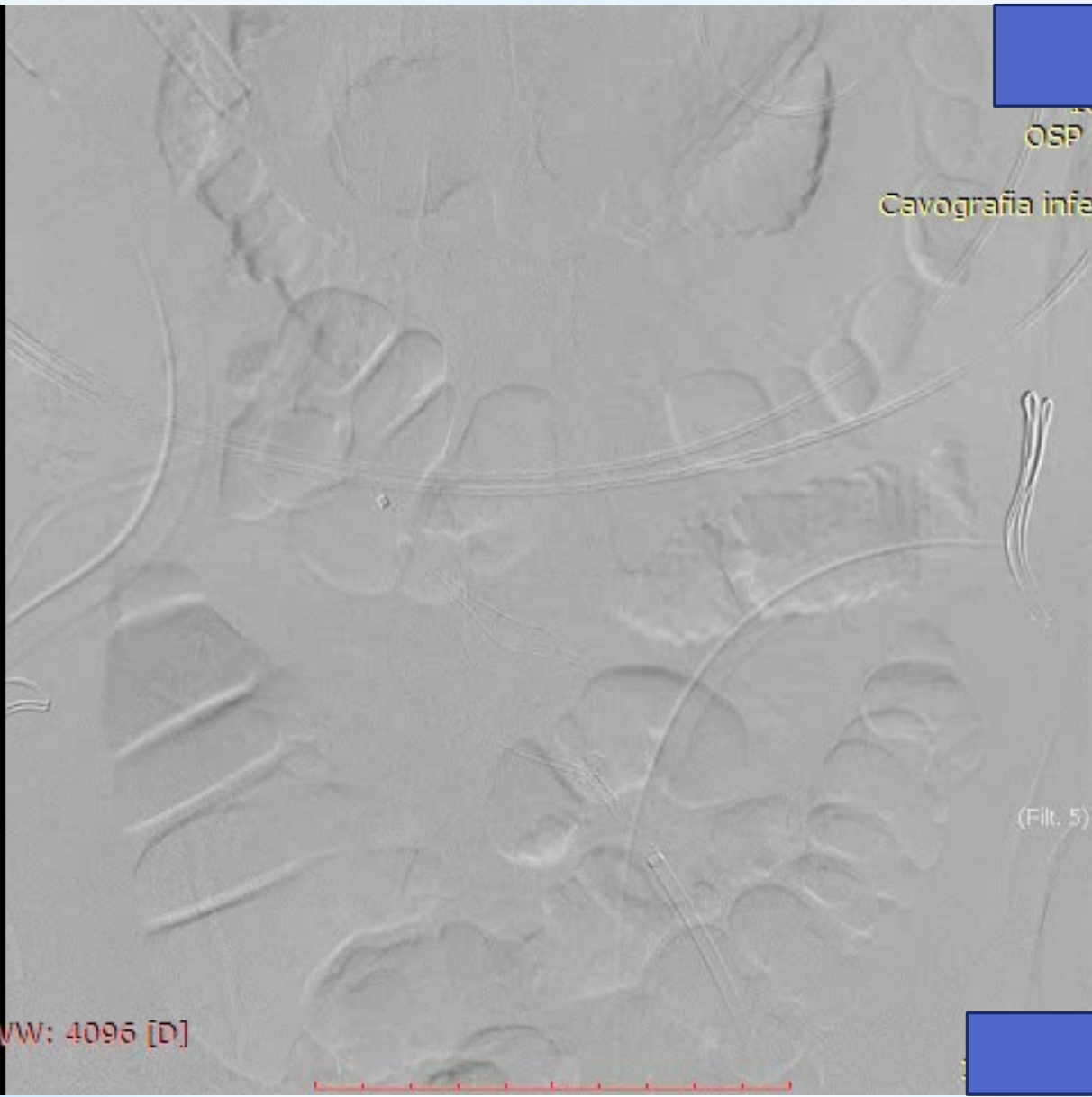
CAVOGRAMMA

Im: 1/20
Se: 1

OSP VILLA SOFIA
270
Cavografia inferiore (e.o.) -
Processed:

WL: 2048 WW: 4095 [D]
RAO: 1

(Filt. 5)



Im: 1/246

Se: 1

254850

10/12/1992 M

OSP VILLA SOFIA

270

Cavografia inferiore (e.o.) -

Processed: Processed: Processed: Processed:

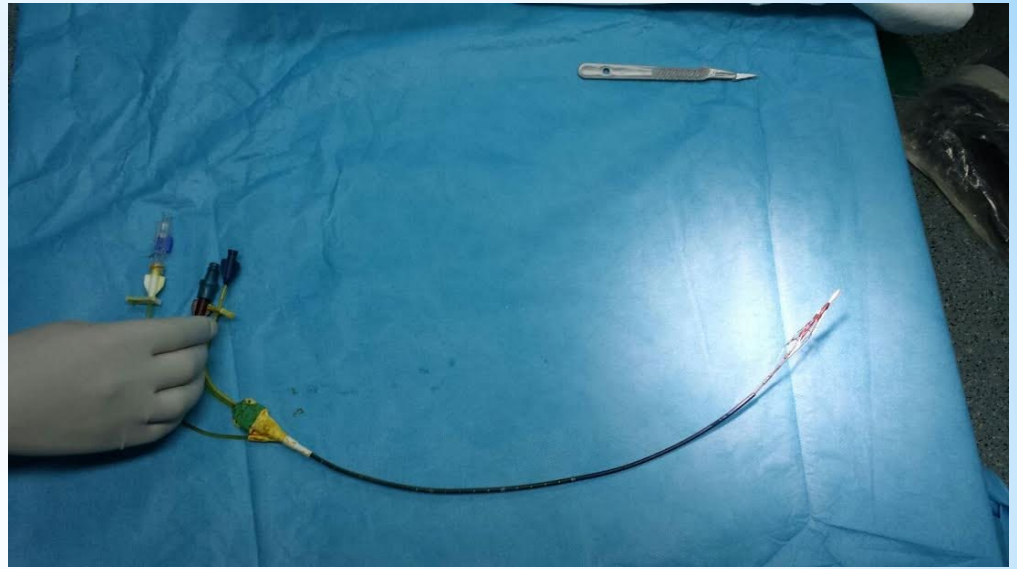
Scopia

(Filt. 1)

WL: 128 WW: 256 [D]

LAO: 13

1







*Polytrauma of year 27 road accident Car

arrival at the shock room on 06/07/2021 the
patient already intubated presents
hemodynamic instability
PAO 80/50 FC 115b/m'

Im: 206/351
Se: 10

A

PS OSPEDALE VILLA SOFIA PALERMO
13100
TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
MDC



Im: 214/351
Se: 10

A

PS OSPEDALE VILLA SOFIA PALERMO

13100

TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
MDC

R

L



P

WL: 40 WW: 400 [D]
T: 2.5mm L: -268.0mm

Im: 205/351
Se: 10

A



03/12/1988
PS OSPEDALE VILLA SOFIA PALERMO
13100
TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
MDC

R

L



P



WL: 40 WW: 400 [D]
T: 2.5mm L: -245.5mm

Im: 41/351
Se: 10

A

PS OSPEDALE VILLA SOFIA PALERMO

13100

TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
MDC

R

L



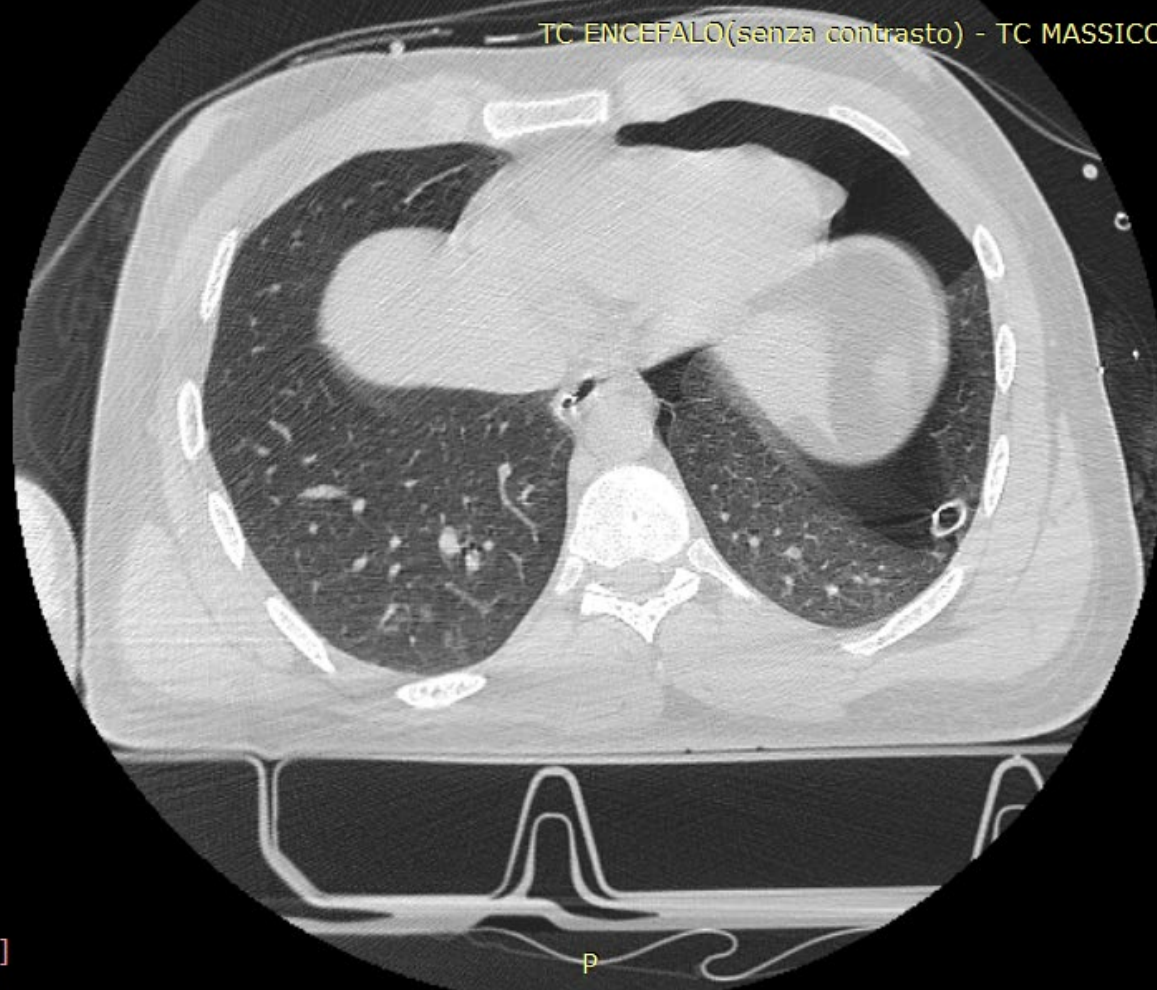
P

WL: 40 WW: 400 [D]
T: 2.5mm L: -268.0mm

Im: 332/977
Se: 7

A

PS OSPEDALE VILLA SOFIA PALERMO
13100
TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
PARENCHIMA



R

L

P

WL: -450 WW: 1600 [D]
T: 0.6mm L: -215.4mm

Im: 3/37
Se: 4

A

PS OSPEDALE VILLA SOFIA PALERMO
13100
TC ENCEFALO(senza contrasto) - TC MASSICCIO FACCIALE (senza cont
STD



R

L

P

WL: 40 WW: 100 [D]
T: 2.5mm L: 123.3mm

Im: 2/2
Se: 1

[Redacted]

09/12/1988
PS OSPEDALE VILLA SOFIA PALERMO
13165
TC TORACE-ADDOME SUP.-INF. (senza e con contrasto) -
Scout

R

L

WL: 100 WW: 800 [D]
T: 770.6mm L: -0.0mm

[Redacted] ✓
1



Im:11/4e
Se:550165

I 199 RAV
PS OSPEDALE VI

PS OSPEDALE VILLA SOFIA PALERMO
13165

Se:5 +c
P: 0.4

TC TORACE-ADDOME SUP.-INF. (senza e con contrasto) -
Immagini elaborate

DFOV 26.0 cm
STND/SS40 No Filter

R
1
2
9

L
1
3
0

60.0/Wb1.Render.
kV 120
mA Mod.
Rot 0.60s/HE+ 39.4mm/rot
2.5mm 0.984:1/2.50sp
Tilt: 0.0

WB: 112820 WH 256 [D]
W = 391 L = 473

I 459

550/1

Im: 1/21
Se: 1

OSP VILLA SOFIA
372
Cavografia inferiore (e.o.)
cavografia inf

WL: 993 WW: 1711 [D]
LAO: 3



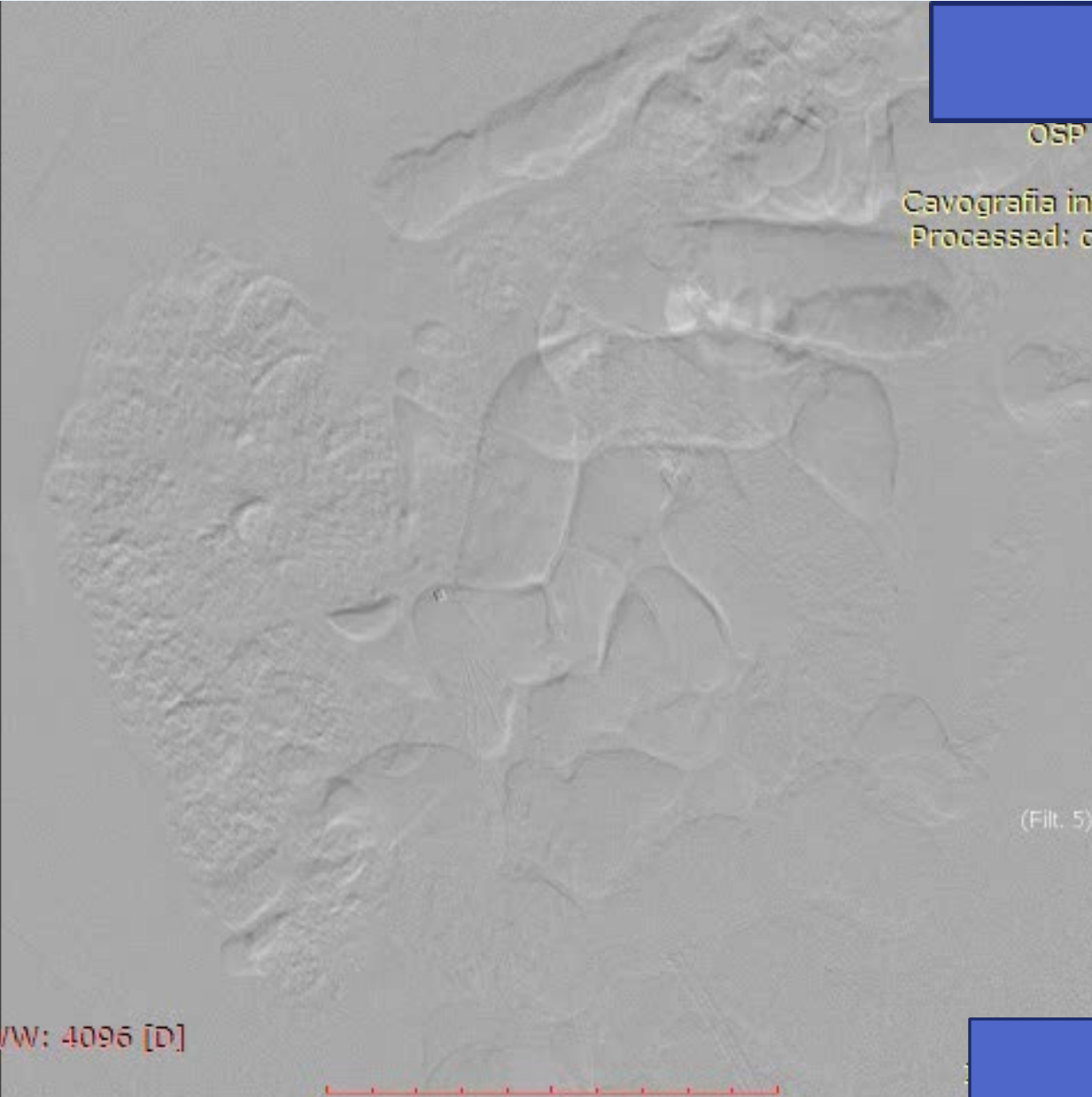
Im: 1/20
Se: 1

OSP VILLA SOFIA
372

Cavografia inferiore (e.o.)
Processed: cavografia inf

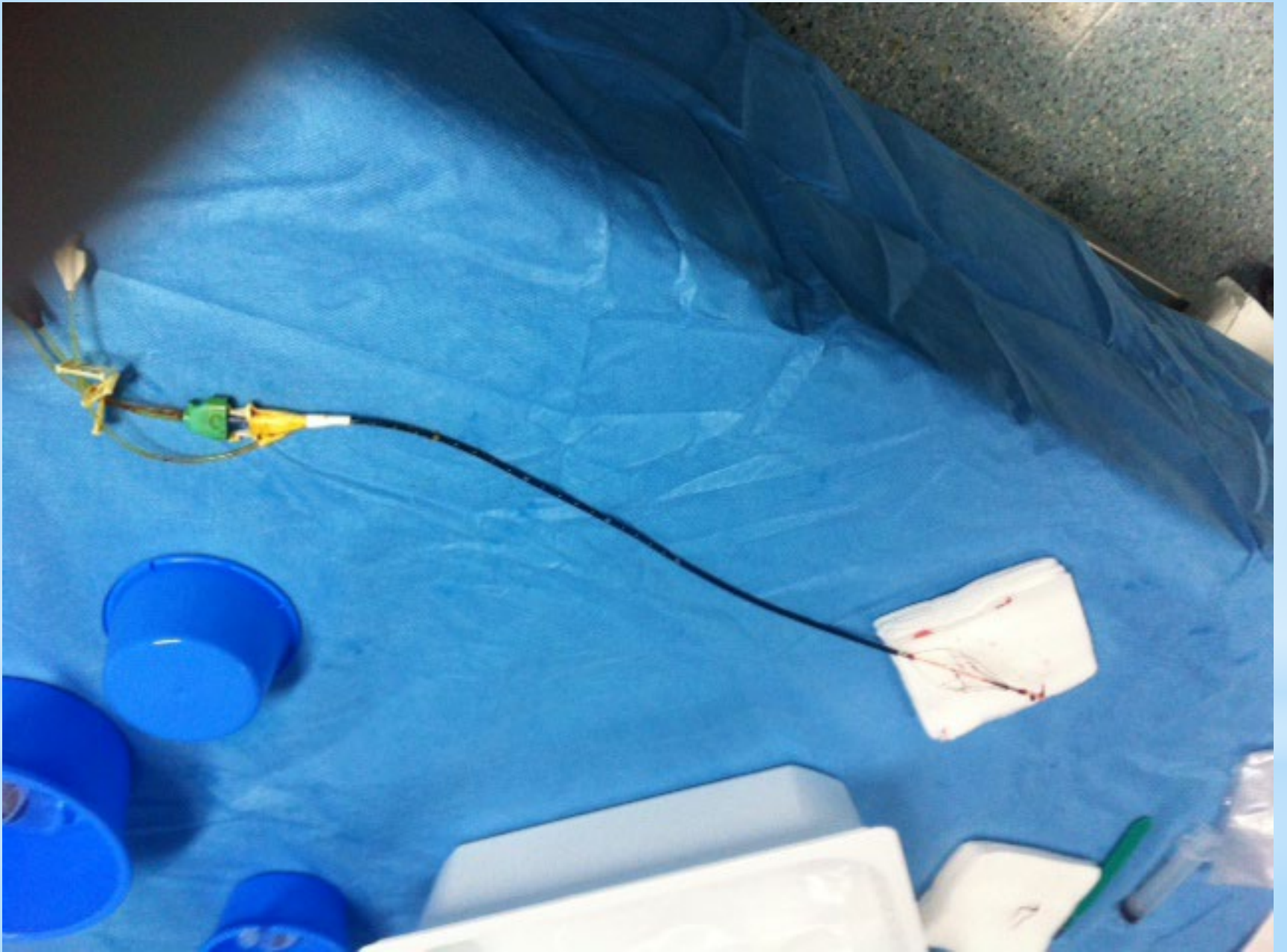
(Filt. 5)

WL: 2048 WW: 4096 [D]
LAO: 3



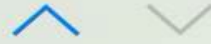






◀ Thread

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Prof. Salvatore Nicosia
Direttore UOC Anestesia-Rianimazione e Terapia Antalgica
AZ. Policlinico Vittorio Emanuele
Catania

Prof. Vincenzo Monaca
Direttore UOC Chirurgia Vascolare
AZ. Policlinico Vittorio Emanuele
Catania



Obese woman aged 62 affected by endometrial adenocarcinoma

Proposed intervention:

Total hysterectomy
bilateral adnexectomy
pelvic lymphadenectomy

Risk factors:

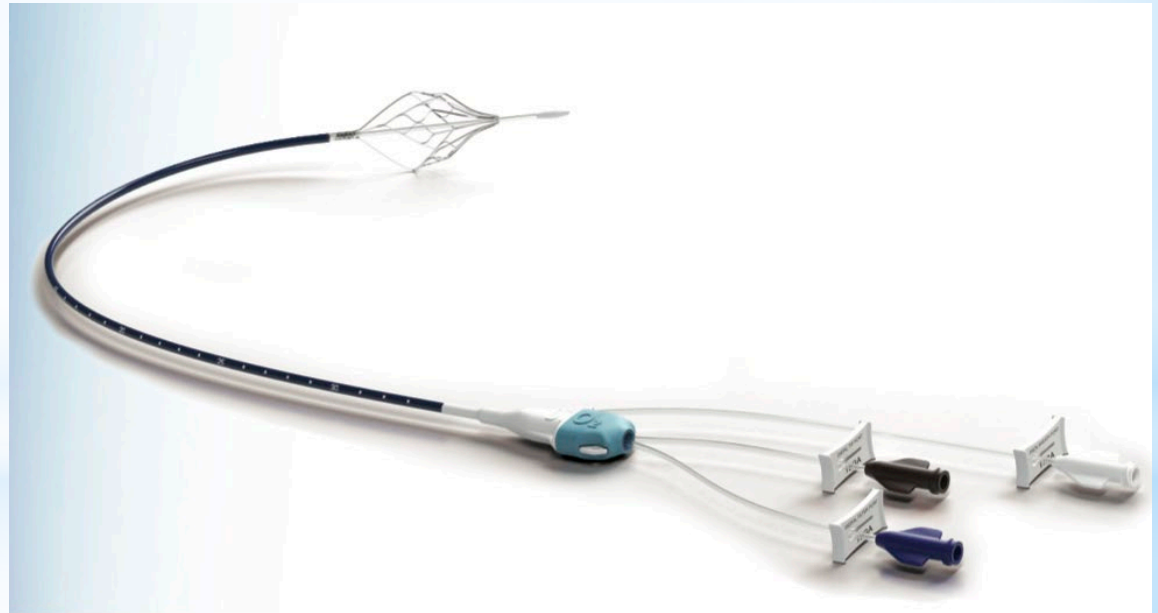
Hypertension

Diabetes mellitus

Genetic thrombophilia (homozygosity for factor II and factor V Leiden mutation)

In anamnesis two episodes of left lower limb TVP

It is decided to place a temporary caval filter via Angel catheter with right femoral venous access before surgery



Im: 1/1

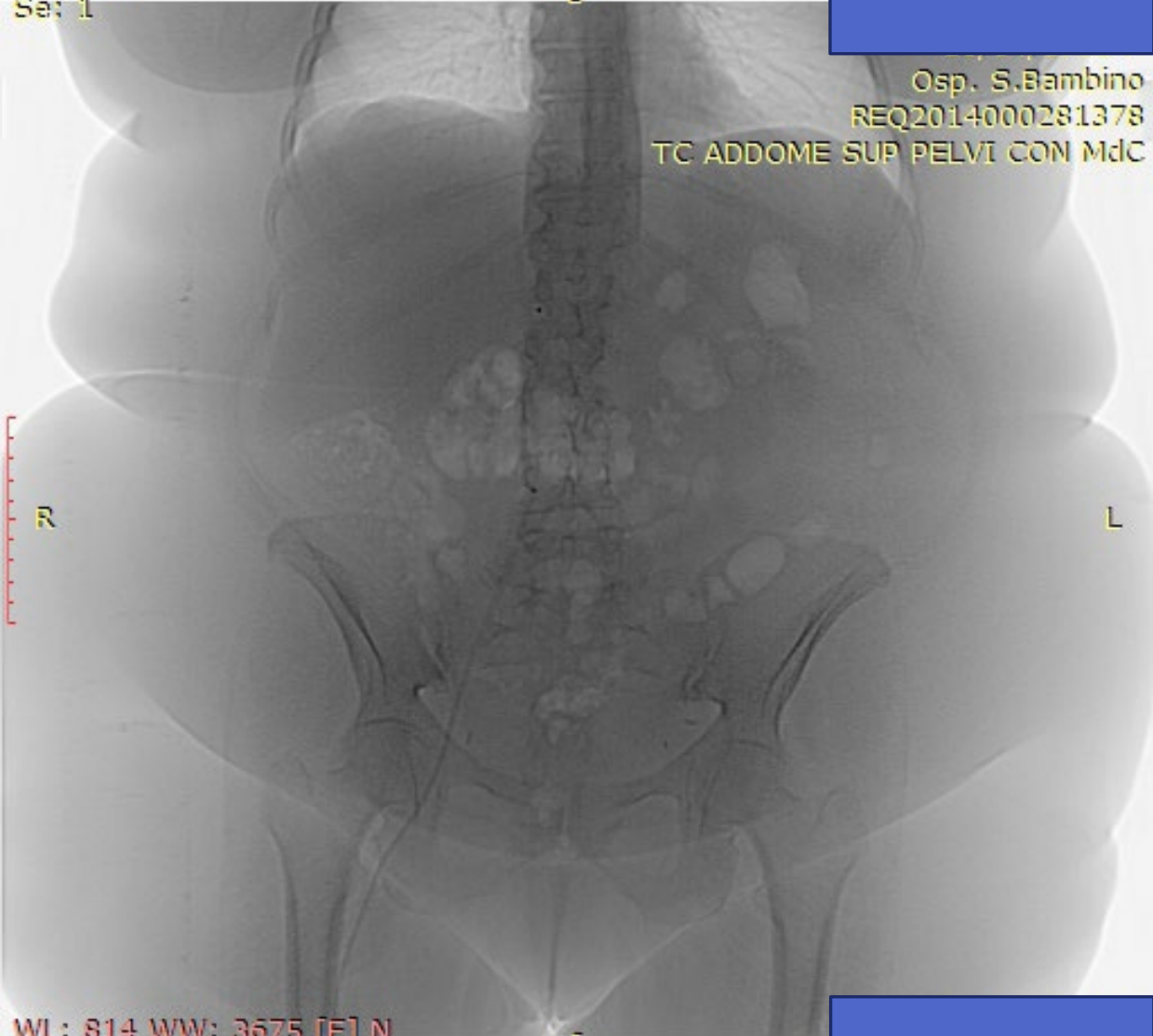
Set: 1

S



Osp. S.Bambino
REQ2014000281378

TC ADDOME SUP PELVI CON Mdc



WL: 814 WW: 3675 [F] N

L: 0.0mm

I



Im: 248/512
Se: 2

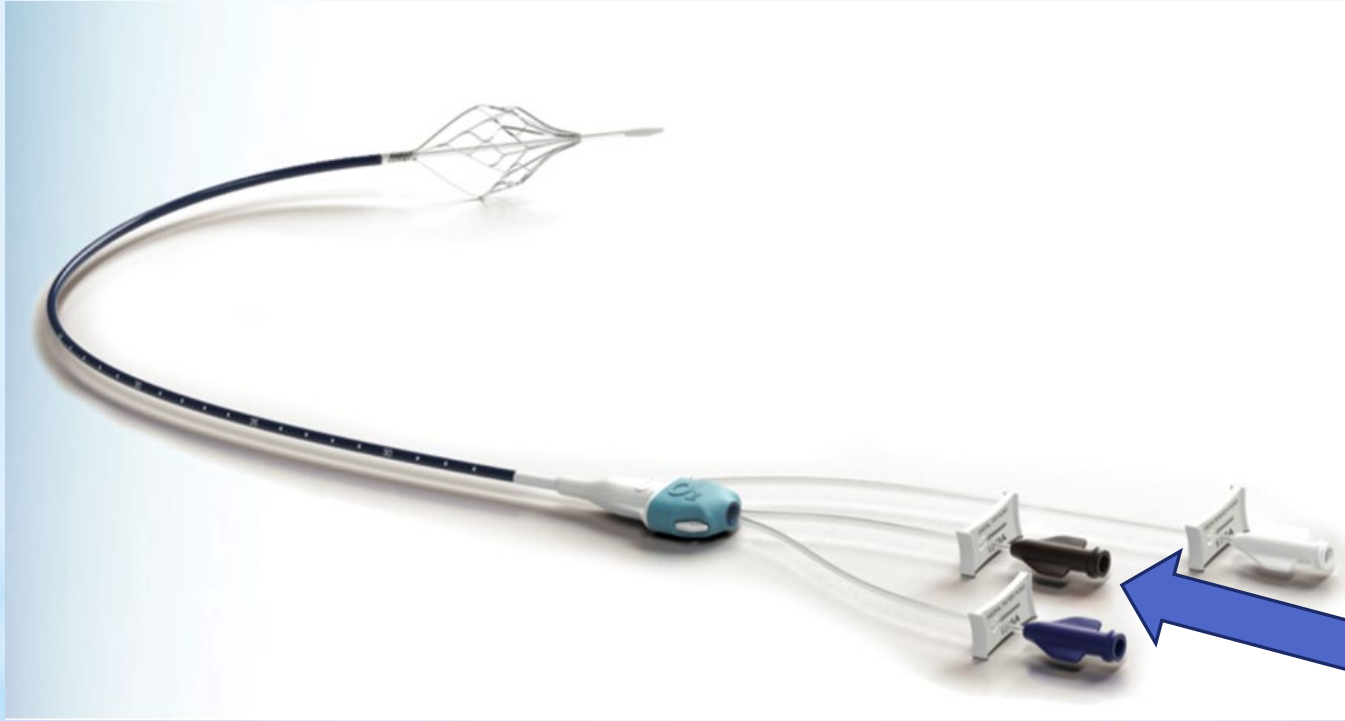
Osp. S.Bambino
REQ2014000281378
TC ADDOME SUP PELVI CON Mdc
Portale

R

L

WL: 40 WW: 350
T: 1.0mm L: -8.8mm





Im: 1/2
Se: 1



19/07/1992
P.O. FERRAROTTO
31592
ANGIO TC TORACE

R

L

WL: 636 WW: 3319 [F]
T: 0.8mm L: 167.0mm

Im: 1/4
Se: 1



517795
16/04/1952 F
P.O. FERRAROTTO
31640
TC ADDOME SUP. E INF. (SENZA E CON CONTRASTO)

WL: 587 WW: 3222 [F]
T: 0.8mm L: 169.0mm

50mA 120kV
04/11/2014 16:22:11

Im: 227/512
Se: 2

S

P.O. FERRAROTTO
31640

TC ADDOME SUP. E INF. (SENZA E CON CONTRASTO)

R

L

WL: 60 WW: 400
T: 0.8mm L: 120.6mm

I



Im: 195/512
Se: 8



TC ADDOME SUP. E INF. (SENZA E CON CONTRASTO)
TARDIVA
TARDIVA

P.O. FERRAROTTO
31640

WL: 60 WW: 400
T: 0.8mm L: 118.1mm

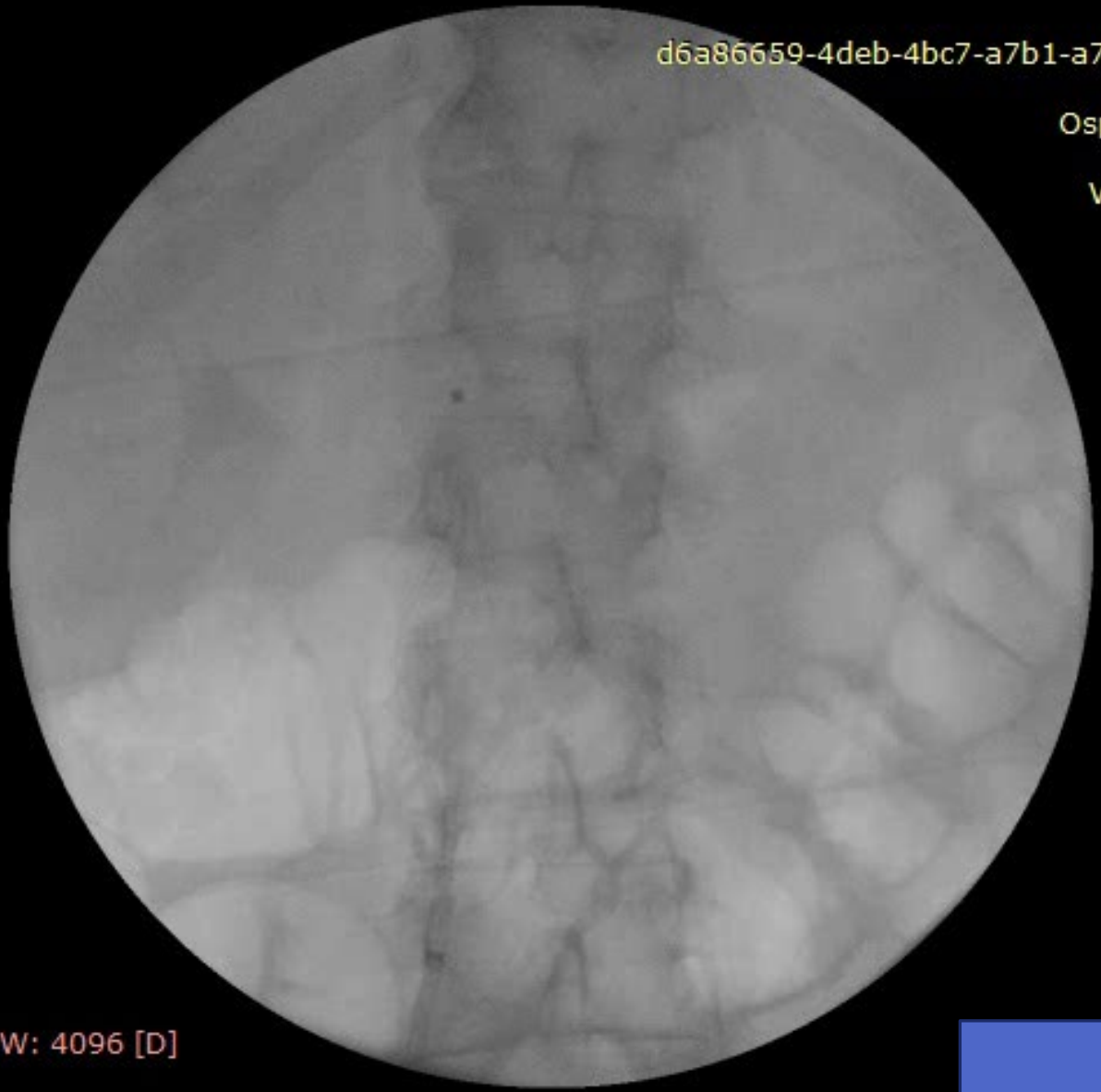
Im: 1/201
Se: 9

d6a86659-4deb-4bc7-a7b1-a7f47ede6b4e

O

Osp. Ferrarotto

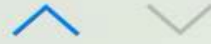
Vascolare HQ



WL: 2048 WW: 4096 [D]
AP

◀ Thread

2 di 2



BEST SANITAS

1^a Edizione

**PREMIO TOP INSANITAS
PER L'EMERGENZA URGENZA**

**all'Azienda Ospedaliera
Villa Sofia – Cervello**

per l'attività del Trauma Center

Palermo, 18 settembre 2022



AIOP SICILIA

COLLAGE

**DRT
ADV**
THE
YELLOW
AGENCY



Grazie per l'ATTENZIONE

BEST of SALTAS
17° Edizione
PREMIO TOP INFANTAS
PER L'EMERGENZA URGENZA
all'Azienda Ospedaliera
Villa Sofia - Cervello
19/10/2023

**ARRIVEDERCI E
GRAZIE PER
L'ATTENZIONE**

