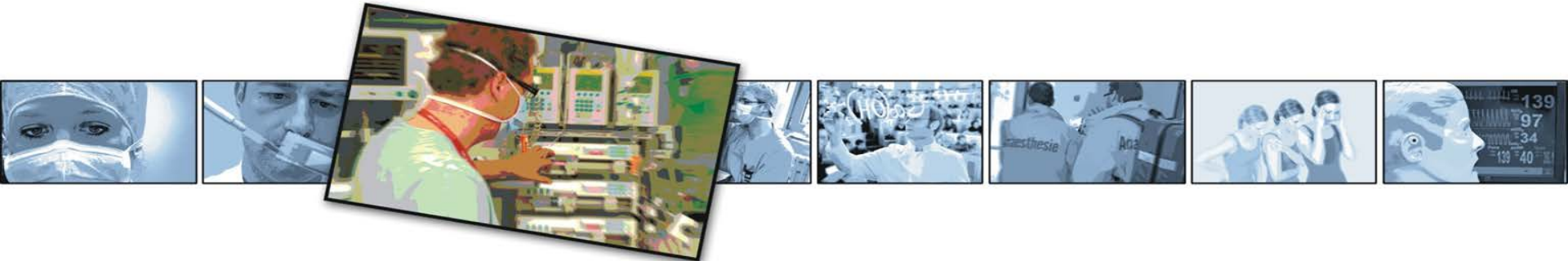


Presepsin: A predictor for postoperative complications after elective cardiac surgery ?

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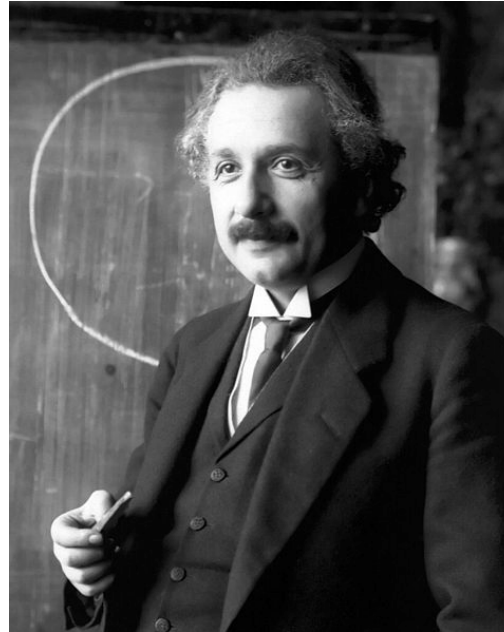


Conflict of interest (COI-5)



- **Mitsubishi Pharma / Diagnostic Germany**
- **Edwards Lifesciences Germany**
- **Covidien Germany GmbH**
- **Baxter Germany GmbH**
- **Novartis Pharma GmbH**
- **Pfizer Pharma GmbH**
- **Bayer Vital GmbH**





„To make you think is the deepest way to inspire“

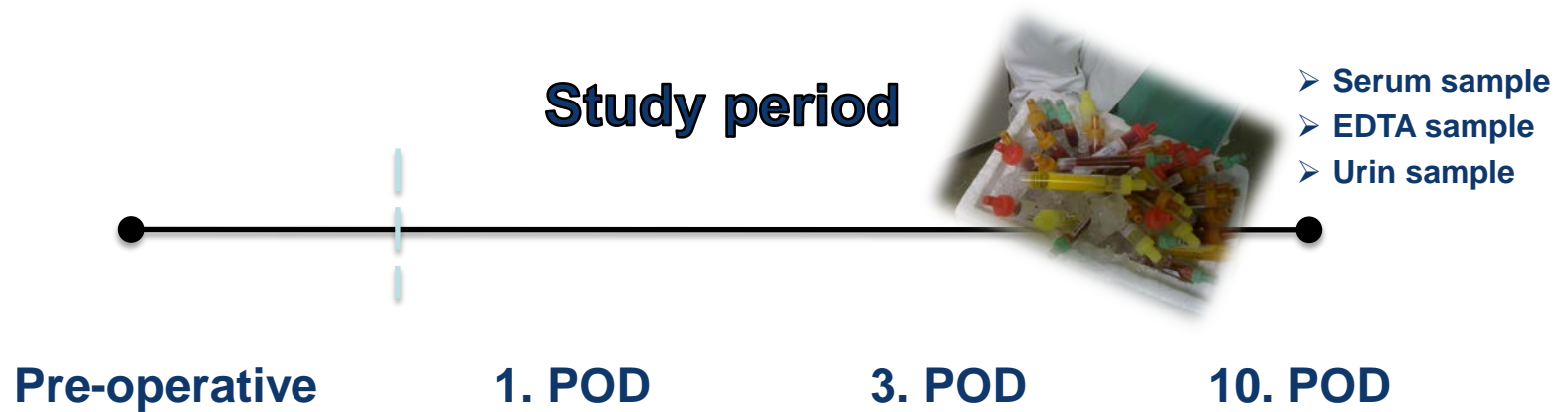
Albert Einstein

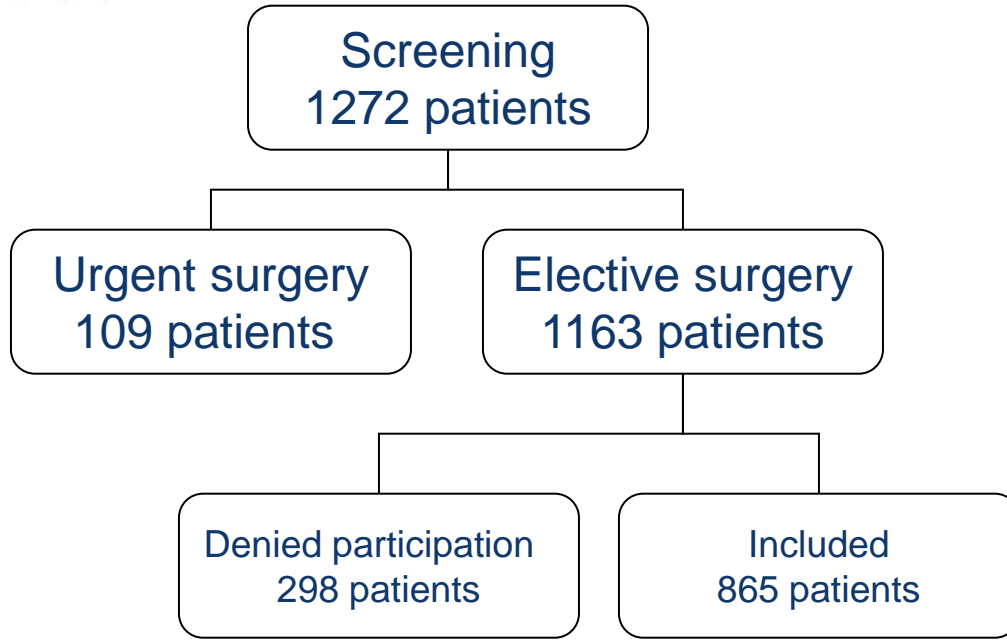


Prospective cohort study to evaluate possible risk factors for the occurrence of complications after elective cardiac surgery



Prospective cohort study to evaluate possible risk factors for the occurrence of complications after elective cardiac surgery





Inclusion criteria:

- > 18 years
- written informed consent
- Non pregnant

Studies / Publications

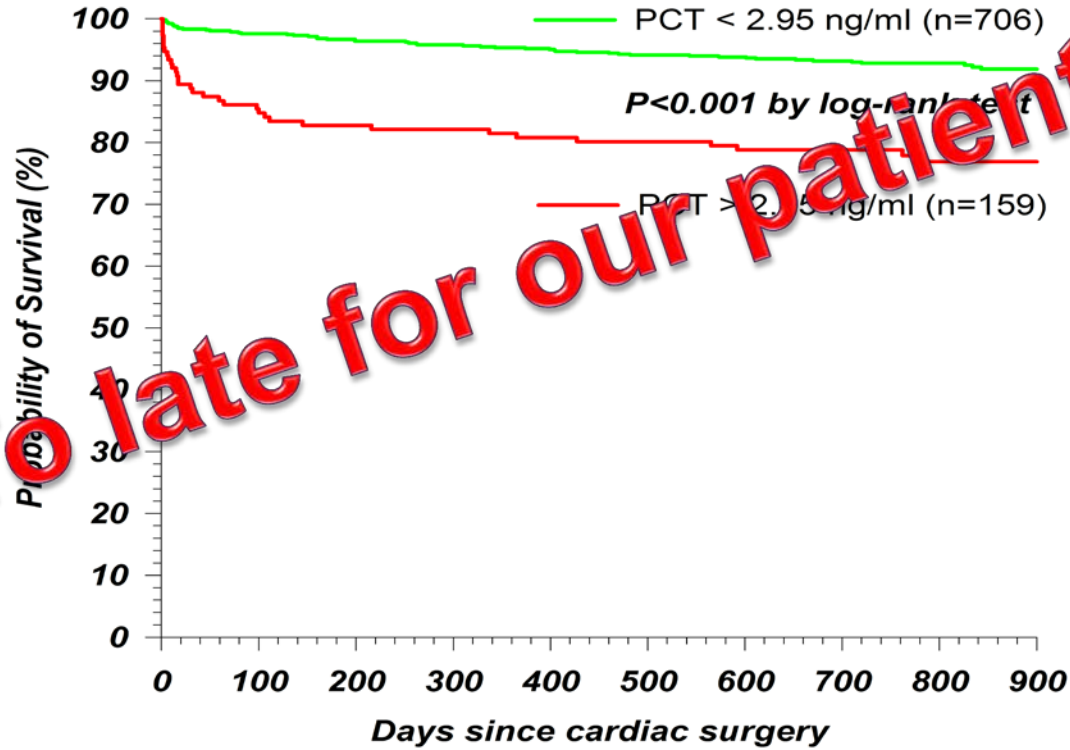
- Non-occlusive mesenteric ischemia
- Acute renal failure
- Long-term outcome



Results

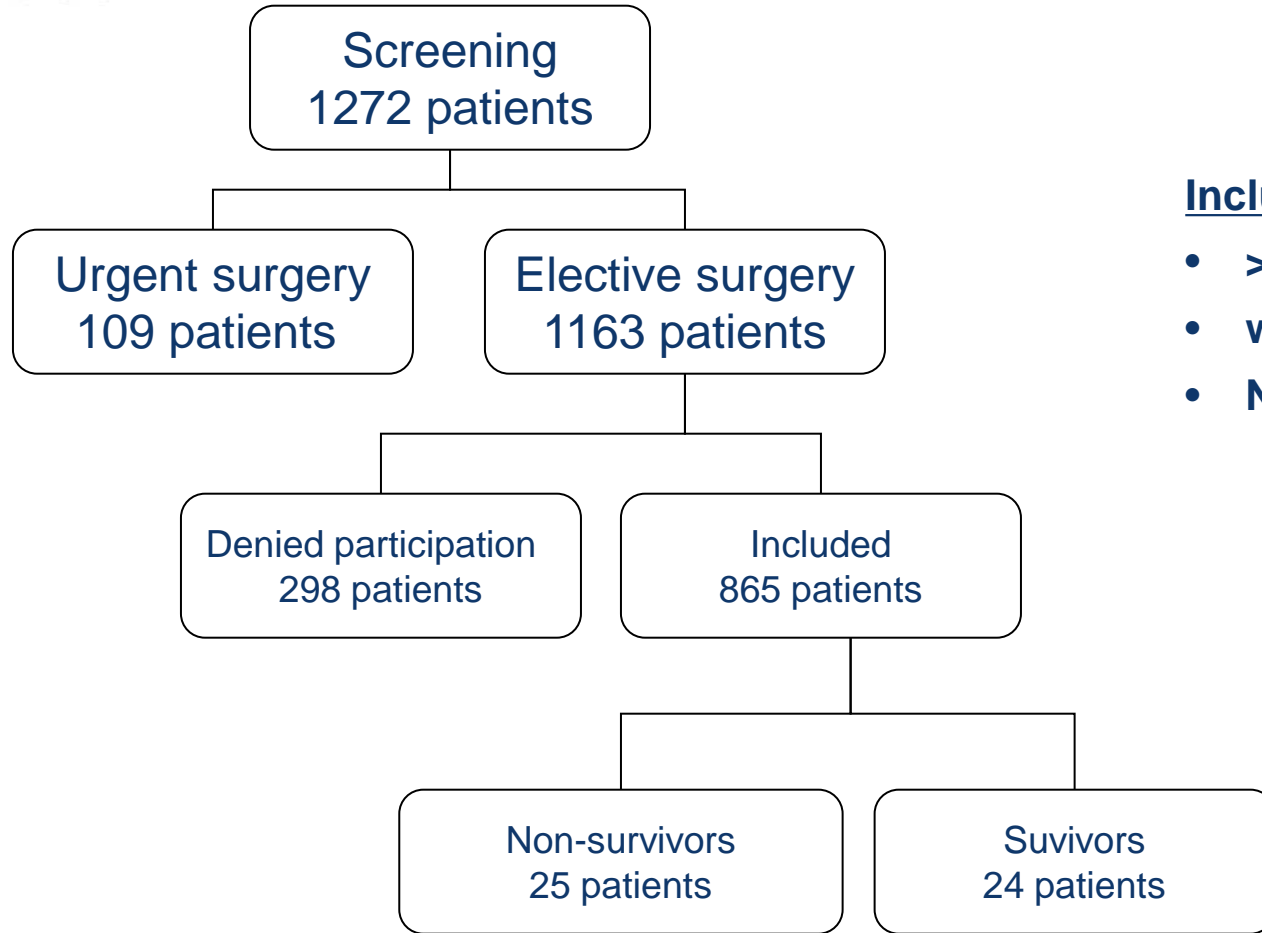
Serum Procalcitonin (1. POD)

Survival Analysis



To late for our patients

Pilot-study Presepsin



Inclusion criteria:

- > 18 years
- written informed consent
- Non pregnant



Characteristic	death (n=24)	survivor (n=25)	p-value
<i>Demographics</i>			
Gender [n] (%)			
male	10 (42)	15 (60)	0.3
Age [yrs] (min-max)	71.9 ±0.7 (23-85)	60.2 ±3.3 (26-85)	0.007
Weight [kg] (min-max)	73.4 ±2.5 (45-140)	78.7 ±2.8 (52-105)	0.17
Size [cm] (min-max)	165 ±2 (148-178)	171 ±2 (151-190)	0.03
body mass index [kg/m ²] (min-max)	27.2 ±0.9 (17-47)	27.0 ±0.9 (19-39)	0.94
eGFR (CKD-EPI) (min-max)	52.1 ±5.1 (9-122)	83.9 ±8.4 (19-164)	0.002
EuroSCORE 2 (min-max)	11.4 ±2.0 (1.4-38)	7.6 ±1.5 (0.9-33)	0.1
Ejection fraction [%] (min-max)	59.2 ±5.0 (24-90)	55.4 ±1.7 (15-90)	0.5
NYHA class (min-max)	3.1 ±0.1 (1-4)	3.0 ±0.1 (1-4)	0.7
<i>Co-morbidity</i>			
Coronary artery disease [n] (%)	13 (54)	10 (40)	0.4
Pulmonary hyperstension [n] (%)	11 (46)	28 (7)	0.2
COPD [n] (%)	3 (13)	2 (8)	0.7
Status past stroke [n] (%)	3 (13)	0 (0)	0.1
Insulin dependent diabetic [n] (%)	3 (13)	0 (0)	0.1



Characteristic		death (n=24)	survivor (n=25)	p-value
<i>Procedure type [n] (%)</i>				
Intraoperative	CABG operations	13 (54)	49 (42)	0.1
	Valve operations	14 (58)	19 (76)	0.2
	Pulmonary thrombectomy	1 (4)	1 (4)	1
	Combination surgery	6 (25)	8 (32)	0.8
	Redo CABG and/or valve	4 (17)	3 (12)	0.7
	Operation time [min] (min-max)	234 ±19 (115-450)	175 ±12 (45-282)	0.01
CPB time [min] (min-max)	129 ±16 (41-334)	86 ±15 (41-172)	0.02	
<i>mech. ventilated [h] (min-max)</i>				
		132 ±30 (7-554)	26.4 ±11.3 (4-278)	0.001
<i>Length of stay (days)</i>				
Outcome	In ICU [d] (min-max)	5.6 ±1.3 (0-23)	1.6 ±0.4 (0-11)	0.04
	In IMCU [d] (min-max)	1.0 ±0.5 (0-9)	1.6 ±0.3 (0-5)	0.3
	In hospital [d] (min-max)	11.5 ±2.0 (3-35)	10.7 ±0.9 (10-25)	0.7
	hospital mortality (%)	24 (100)	0 (0)	<0.001
900-day mortality (%)	24 (100)	0 (0)	<0.001	

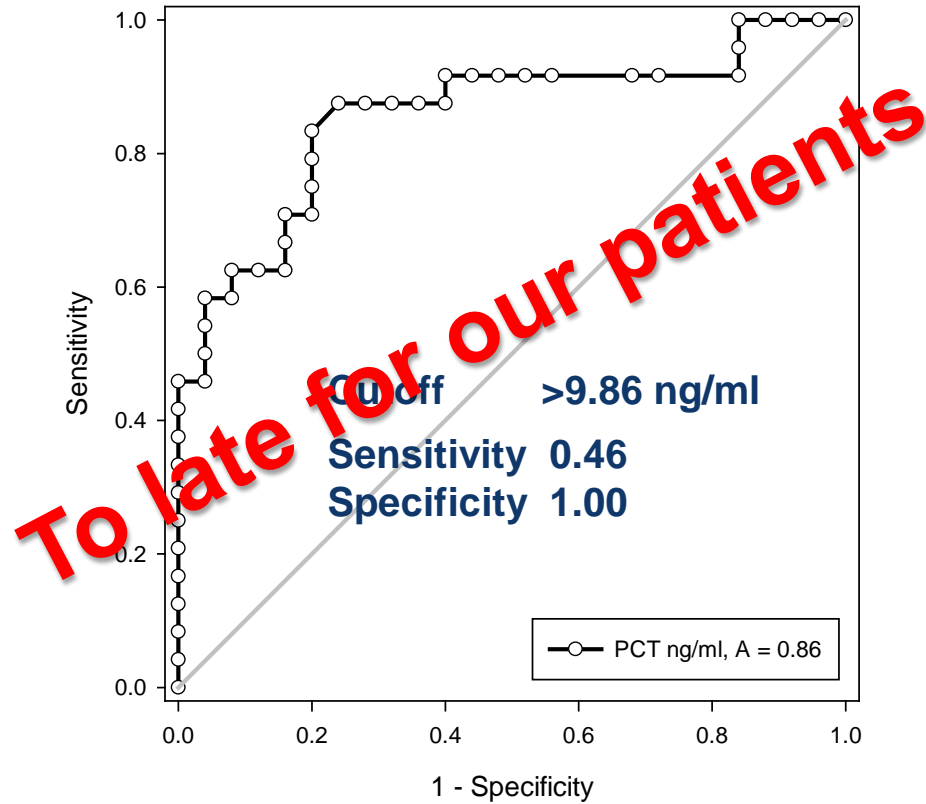


Characteristic	death (n=24)	survivor (n=25)	p-value
<i>preoperative</i>			
C-reactive protein [mg/l] (min-max)	44 ±12 (1-244)	11.8 ±4.4 (0.5-88)	0.01
leukocytes [$\times 10^9$ /l] (min-max)	9.2 ±0.8 (3.5-18.5)	7.7 ±0.4 (1.2-193)	0.3
PCT [ng/ml] (min-max)	0.27 ±0.22 (0.0-5.4)	0.11 ±0.1 (0.0-1.0)	0.5
<i>postoperative</i>			
C-reactive protein [mg/l] (min-max)	56 ±7 (9-145)	74.8 ±3.1 (3.0-198)	0.04
leukocytes [$\times 10^9$ /l] (min-max)	14.6 ±1.1 (7.2-29.2)	12.6 ±0.4 (4.0-26.1)	0.03
PCT [ng/ml] (min-max)	23.8 ±4.4 (0.2-83.8)	2.4 ±1.1 (0.0-26.8)	<0.001

Inflammatory marker

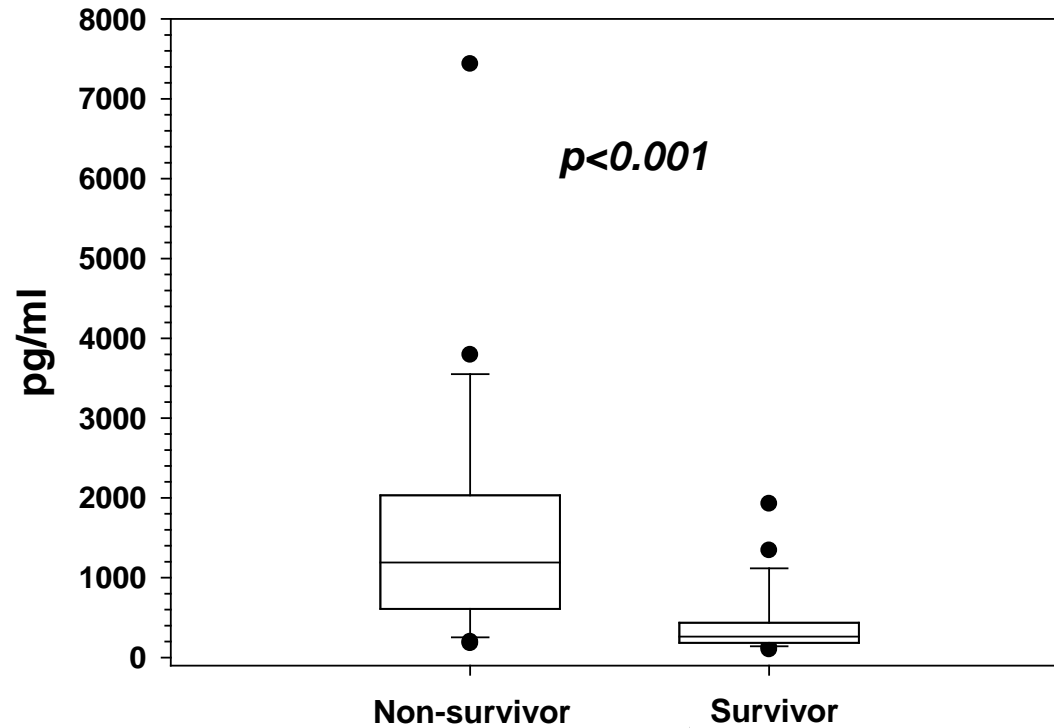
Results

Serum Procalcitonin (postoperative)



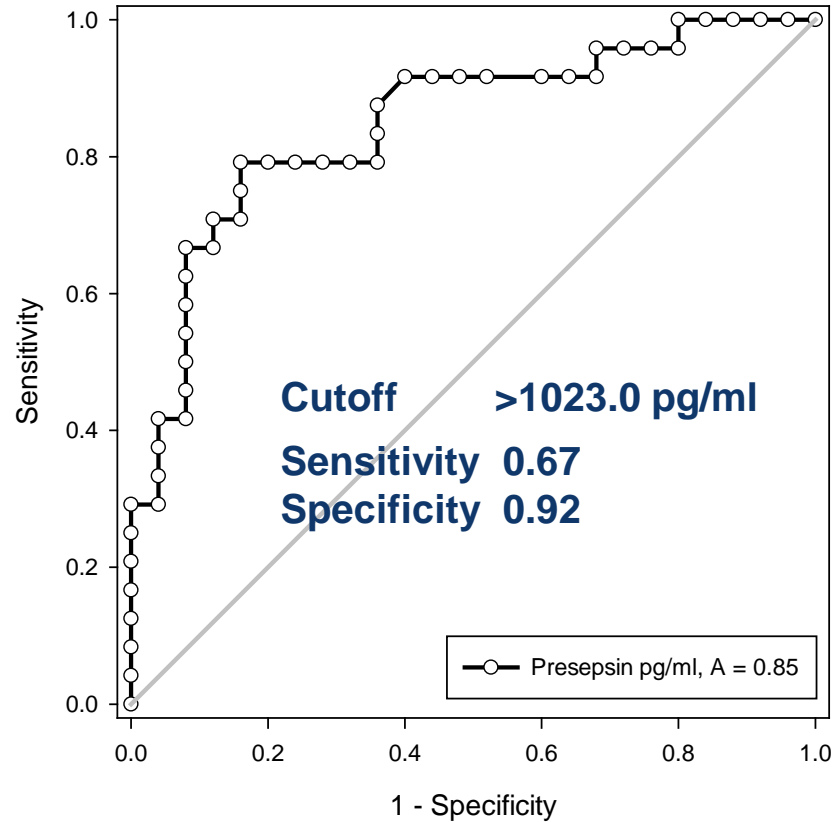
Results

Serum Presepsin (preoperative)



Results

Serum Presepsin (preoperative)





Conclusion



Presepsin seems to be a strong and very early predictor for postoperative complications after elective cardiac surgery

These primarily data have to be evaluated in a large cohort of patients undergoing cardiac surgery





Thanks to

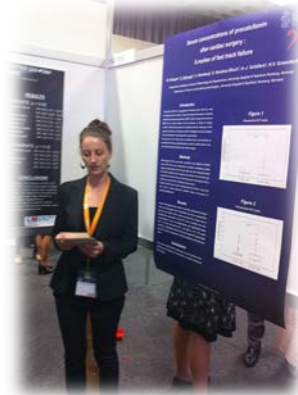
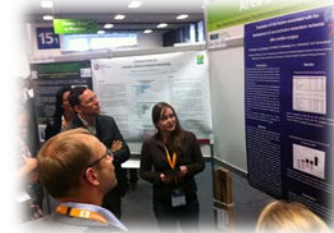
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Thank you for your attention !!



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