



# IMAD 2014

## Local statistical Results

Introduction about  
ventilation

Jean-Noël KOCH, ECCP  
University hospital of Liege  
Belgium

# Data base

- Operative and postoperative data from 2007 to April 2012

# Multivariate analysis

- Age, gender, BSA,
- Emergency, redo, COPD
- Thoracoabdominal aortic surgery
- Deep hypothermia circulatory arrest,
- Nadir haematocrit
- Priming volume
- Platelets, Fresh Frozen Plasma, Red Blood Cells transfusion
- Cell saving
- Need of Dobutamine

# Univariate analysis

- Significant association
  - Higher cross clamp time
  - Use of dobutamine and noradrenaline
- No association
  - Age
  - Surgery on thoracoabdominal aorta
  - COPD

# Univariate analysis

- Trend
  - Higher pump time
  - Lower nadir ACT
  - Greater cell-saving
  - Higher proportion of redo
  - Higher proportion of transfusion
  - Association with CRRT
  - Lower first ICU PaO<sub>2</sub>/FiO<sub>2</sub>
  - Higher mechanical ventilation time

# Univariate analysis

	Respiratory complication				p
	No		Yes		
	Median	P25-P75	Median	P25-P75	
1st ICU PaO <sub>2</sub> /FiO <sub>2</sub>	286	220-382	232	183-307	0,07
Ventilation time (h)	9	6-16,5	17	9-23	0,05
Pump time (')	117	90-150	135	110-198	0,07
Cross clamp time (')	80	59-102	99	71-130	0,04**
Nadir ACT (sec)	405	387-429	386	371-430	0,07
Cell saving (ml)	940	700-1250	1165,5	766-1600	0,08
Redo	17 (7,02%)		3 (20,0%)		0,10
Dobutamine	82 (36,1%)		10 (66,7%)		0,02**
Noradrenaline	68 (29,6%)		9 (60,0%)		0,02**
CRRT	15 (6,79%)		3 (20,0%)		0,09
RBC	109 (45,0%)		10 (66,7%)		0,09
FFP	123 (50,8%)		11 (73,3%)		0,08
PLT	107 (44,2%)		10 (66,7%)		0,08

# HES Withdrawal

### Respiratory complications

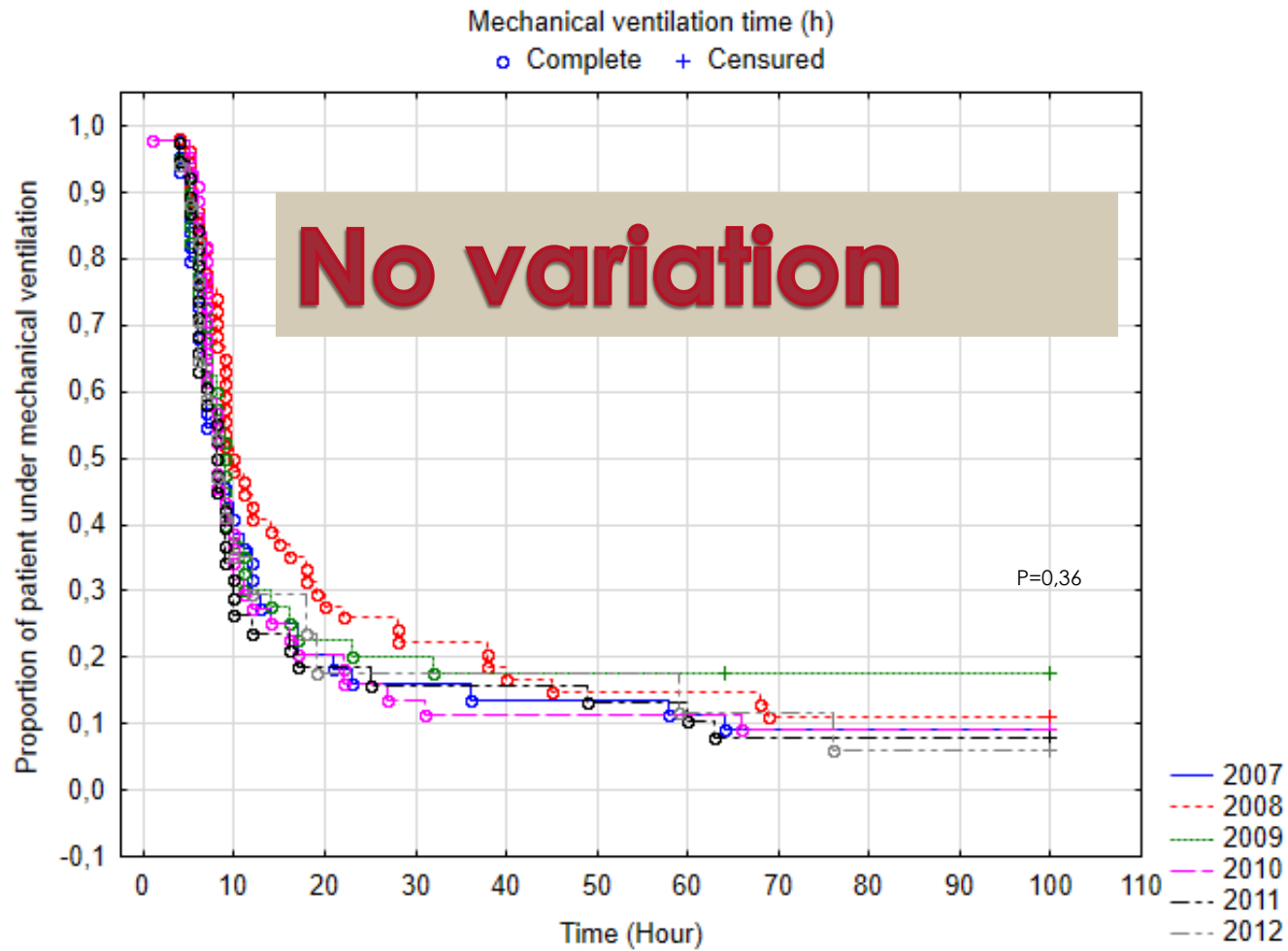
	No		Yes		p-Value
	median	P25-P75	Median	P25-P75	
Ventilation time (h)	8	6-13	10	7-23	0,17
PaO <sub>2</sub> /FiO <sub>2</sub>	285	212-382	263	183-352	0,03

### Colloid versus Crystalloid Priming/ perfusion

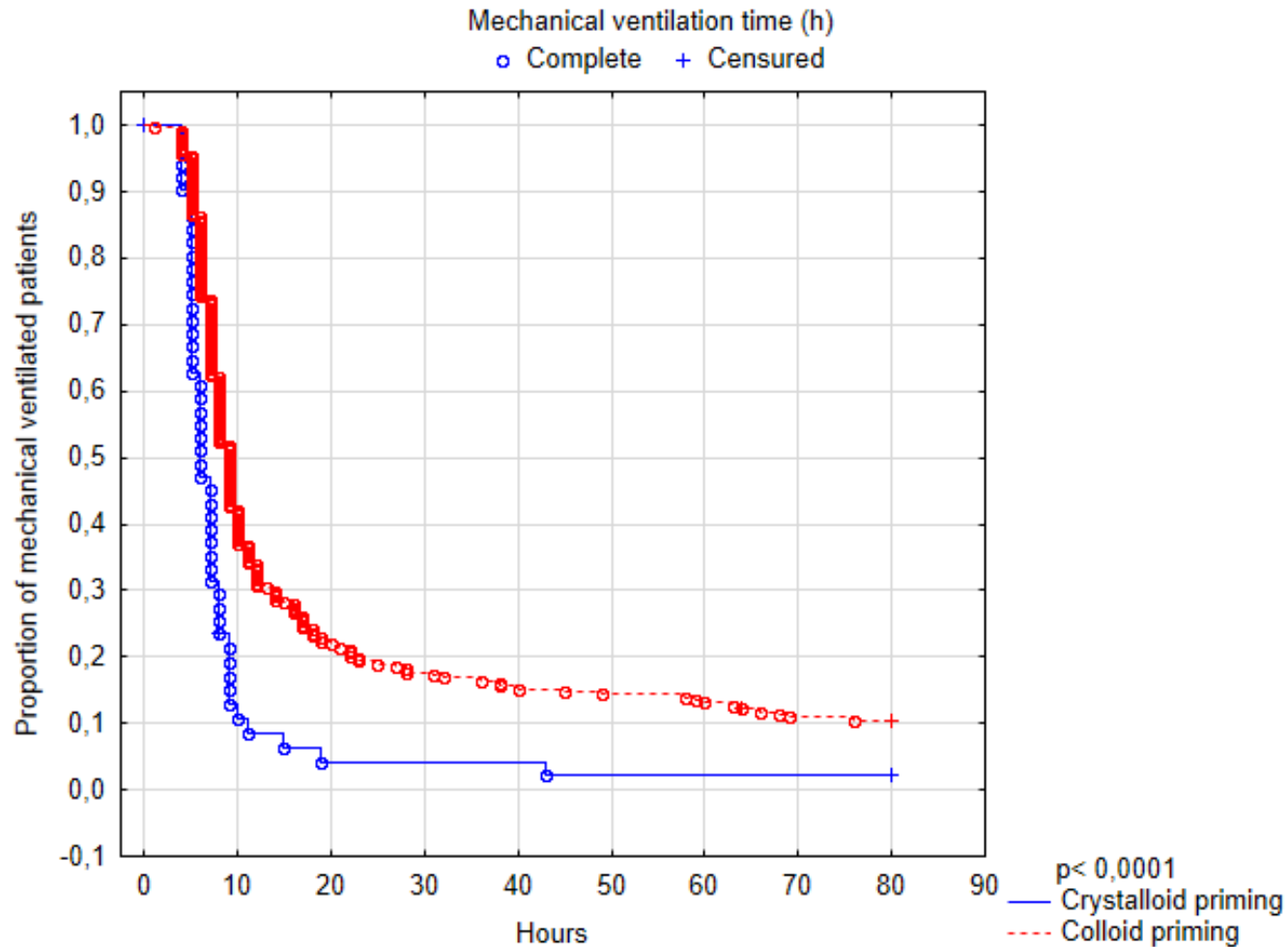
	HES (n=257)		Plasmalyte A (n=53)		p-Value
	median	P25-P75	Median	P25-P75	
Ventilation time (h)	9	6-17	6	5-8	<0,0001
PaO <sub>2</sub> /FiO <sub>2</sub>	281	216-374	298	183-384	0,319
Respiratory complications	15 (5,84%)		9 (17,0%)		0,006



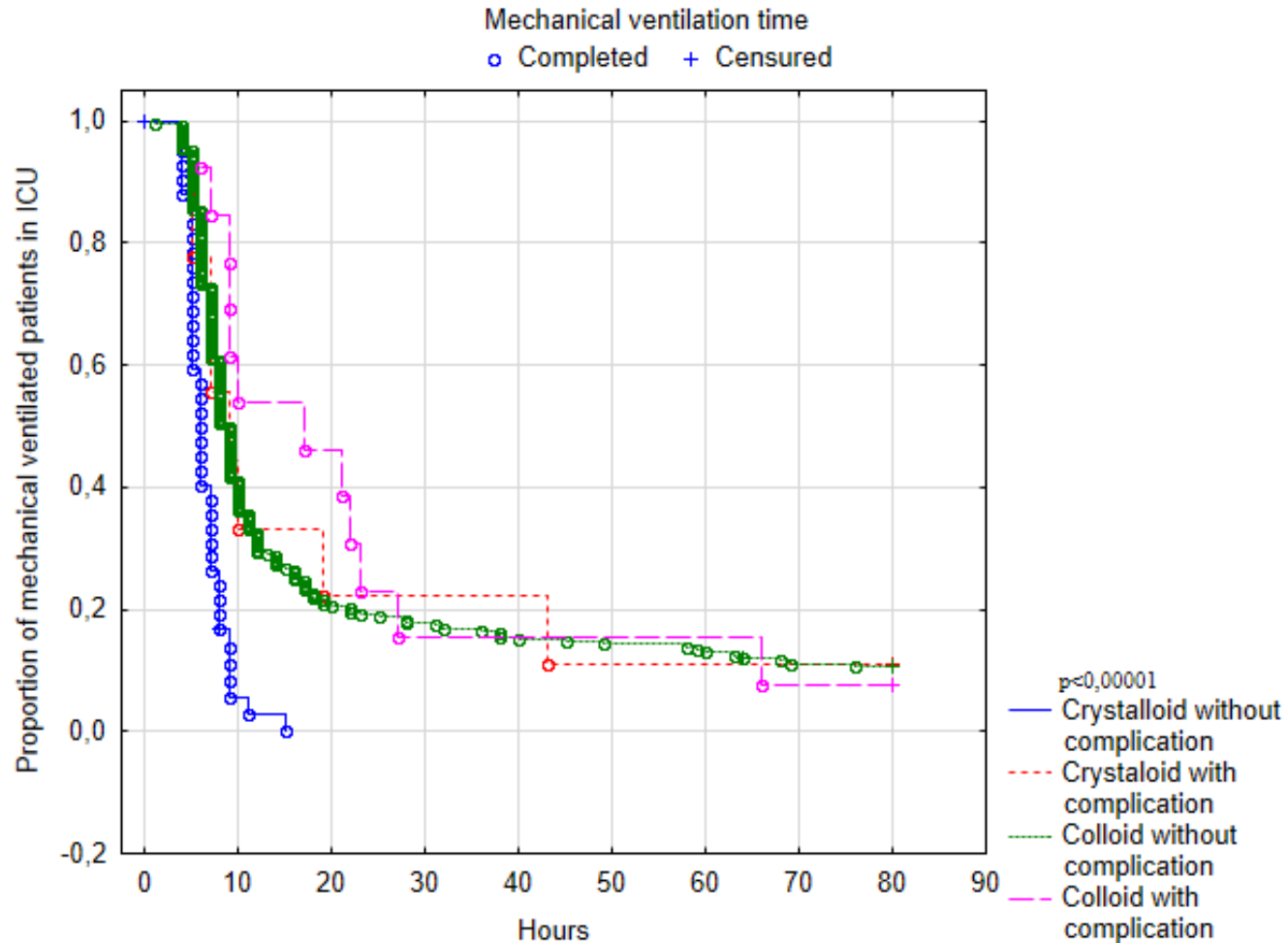
# Mechanical ventilation duration



# Mechanical ventilation duration



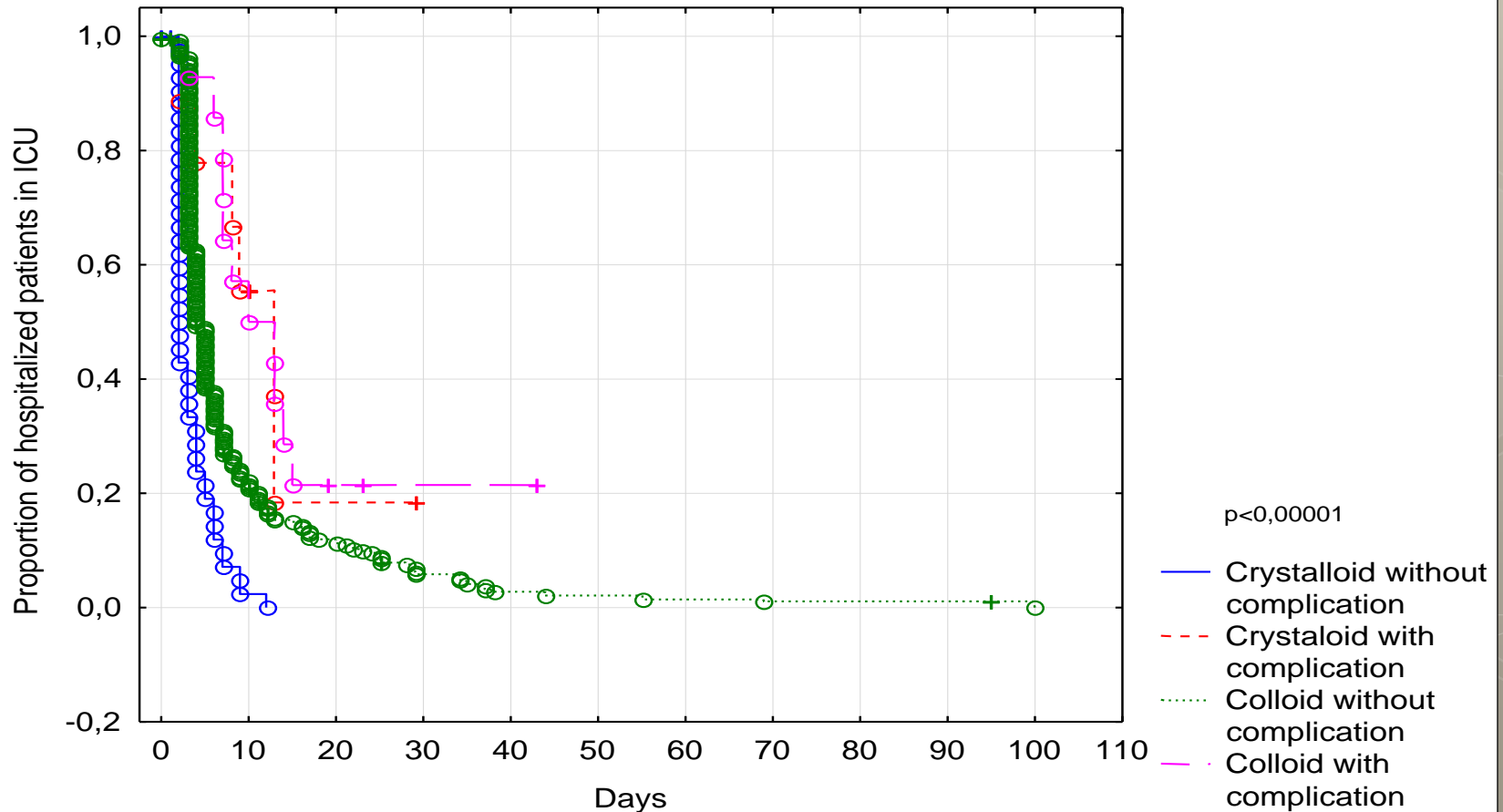
# Mechanical ventilation duration



# ICU stay

Length of ICU hospitalization depending on priming solutions and respiratory complication

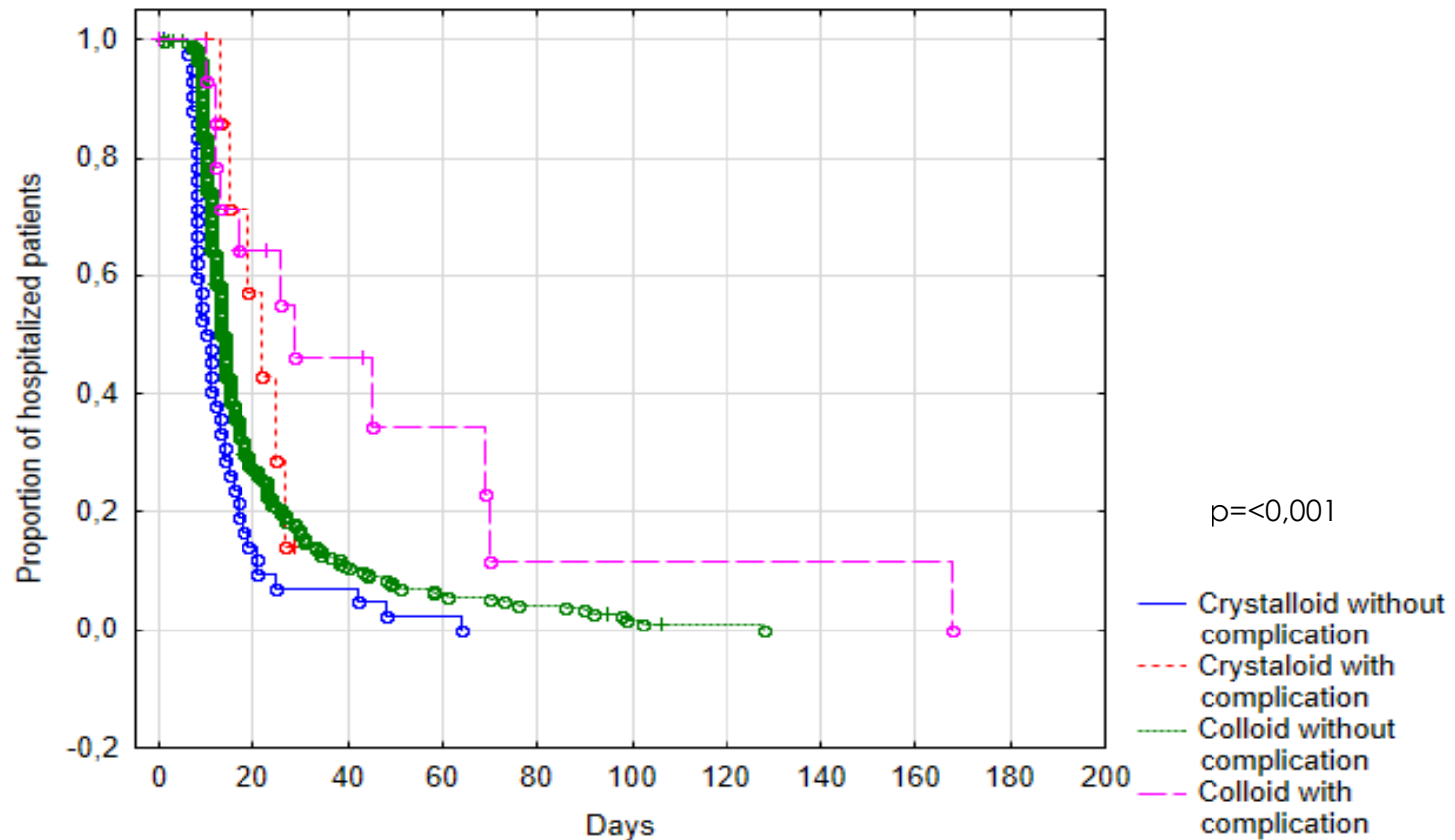
○ Alive + Dead



# Hospital stay

Length of hospitalization depending on priming solutions and respiratory complication

○ Alive + Dead



Koch Jean-Noël, ECCP  
University hospital of Liege

# Conclusions

- Take care of patients :
  - Longer cross clamp time
  - Need of catecholamines
  - Lower first ICU PaO<sub>2</sub>/FiO<sub>2</sub>
- Use crystalloid priming
  - Reduce mechanical ventilation time
  - Reduce length of stay in ICU and in the hospital
  - Could lead to more respiratory complications (without effect on global length of stay)

THANKS FOR YOUR  
ATTENTION

Koch Jean-Noël, ECCP  
University hospital of Liege