

Journal reading

R2 許哲彰 / VS 王瑞芳
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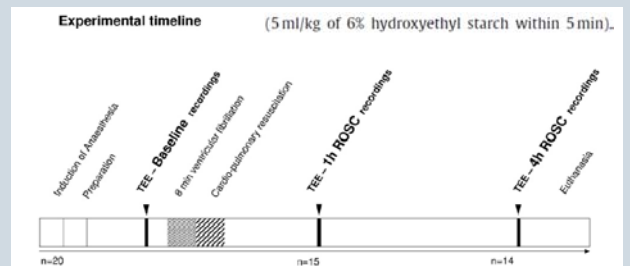


Introduction

- Post resuscitation disease & Sepsis like syndrome
- Normovolaemia is an important goal
- TEE, long axis view
- Sensitivity: 準確評估對增加volume有反應
- Specificity: 準確評估對增加volume無反應

Method

- PiCCO (for detect stroke volume)
- Experienced & inexperienced raters (7 & 14)



Analysis

- Calculate sensitivity & specificity to predict volume responsiveness.
- Agreement between raters.

Result

	Baseline	1 h ROSC	4 h ROSC	
Sensitivity				
N_{sens} (n_{sens})	15(14)	15(3)	14(7)	$p=0.0051$
Median	0.71	1.00	0.71	$p(adj)=0.010$
95% CI	0.67-0.76	0.89-1.00	0.67-0.76	
IQR	0.64-0.79	0.67-1.00	0.57-0.71	
Min-max	0.43-0.93	0.33-1.00	0.29-0.86	
Specificity				
N_{spez} (n_{spez})	15(1)	15(12)	14(7)	$p=0.012$
Median	0.00	0.67	0.43	$p(adj)=0.012$
95% CI	0.00-0.34	0.61-0.72	0.33-0.53	
IQR	0.00-1.00	0.58-0.75	0.29-0.57	
Min-max	0.00-1.00	0.42-0.58	0.00-0.71	

N_{sens} : total number of pigs, n_{sens} : number of pigs with increase in stroke volume.
 N_{spez} : total number of pigs, n_{spez} : number of pigs with no increase in stroke volume.
 median: median of 21 raters, 95% CI: 95% confidence interval of the median, IQR: inter-quartile range, min-max: minimum-maximum, p value for the comparison of time points, and p(adj): p value adjusted for multiple comparisons (2 tests).

No difference between experienced & inexperienced

Result

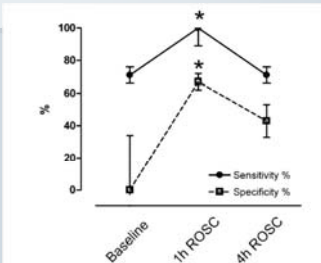


Fig. 3. Sensitivity and specificity for visual evaluation of left ventricular performance to predict volume responsiveness at different time points obtained from all echocardiographers. Presented are median and 95% confidence interval of the median. *Significant change during time-points ($p < 0.05$).

- Sensitivity is good (around 70%)
- Specificity had significant improvement (1h ROSC)

Result

- Best agreement: 1h ROSC
- But consensus rating 並無顯著增加 sensitivity or specificity

Table 3 Agreement for prediction of volume responsiveness between experienced and unexperienced raters as well as pooled data at different time points.

		Experienced raters (n=7)	Inexperienced raters (n=14)	All raters (n=21)
Baseline	ρ_{ave}	0.70	0.74	0.72
N= 15	Kappa	0.20	0.37	0.31
	(95% CI)	0.092-0.31	0.12-0.43	0.28-0.35
1h ROSC	ρ_{ave}	0.80	0.73	0.76
N= 15	Kappa	0.60	0.45	0.51
	(95% CI)	0.49-0.71	0.40-0.50	0.47-0.54
4h ROSC	ρ_{ave}	0.69	0.65	0.65
N= 14	Kappa	0.33	0.27	0.26
	(95% CI)	0.21-0.44	0.22-0.33	0.22-0.30

ρ_{ave} : averaged pairwise concordance of raters, Kappa: Fleiss' multirater kappa, 95% CI: 95% confidence interval of kappa, n: number of raters, N: number of measurements.

Discussion

- Fluid for induce hypothermia
- Echo: noninvasive
- No experimental data of visual estimation
- Best timing: 1h after ROSC
- 專不專家差不多，敏感性特異性無差別
- Raters were blind to other data may affect agreement
- The view of echo

Conclusion

- 目視(超音波)評估心輸出對輸液是否有反應，具有好的sensitivity和合理的specificity.
- 不一定需要心臟超音波專家，故因此可能適合放入post cardiac arrest care protocol.

Result

Table 2 Classification of fractured ribs and sternum comparing CXR and CT in 40 patients.

Classification	CXR, n (%)	CT, n (%)	P-value
Rib fractures	10	26	<.001
Bilateral	6	18	.003
Right-side only	0	1	.314
Left-side only	4	7	.330
Sternum fractures	0	12	<.001
Upper third	0	2	<.001
Middle third	0	5	<.001
Lower third	0	5	<.001

n is the number of patients, CXR is chest X-ray.

Total Had fx	multiple	PTX	Chest wall hematoma	Subclavian v. injury
26	25 (18 bil)	1	1	4

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

Clinical paper

Multidetector CT findings of skeletal chest injuries secondary to cardiopulmonary resuscitation^{*}

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Retrospective research

Discussion

- No lateral CXR
- No autopsy to confirm (CT can miss, too)
- Did not include the prognosis of patient

- Thanks for your attention !!