



EXTRACELULAR AND CARDIOTHORACIC HYPERVOLEMIA, AS A PROGNOSTIC MARKERS IN ACUTE KIDNEY INJURY.

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• BACKGROUND AND AIM

The bioelectrical impedance analysis (BIA) is a noninvasive and painless technique is easy to perform. Can offer information about volemia.

We evaluate use of corporal and hemodynamic BIA, and volemic parameters (Extracelular/intracelular watter ratio –ECW/ICW-, Extracelular/Total body watter ratio –ECW/TBW-, and Fluid thoracic volumen –FTV-) as a prognostic markers in acute kidney injury (AKI).

MATERIAL AND METHODS

We include:

Study A: cohort of 159 patients (medium age 66 years SD 1.3, and male 73 %) with AKI and corporal BIA

Study B: cohort of 50 patients (mean age 71.2 years SD 1.6, 79.6% males) with AKI and hemodynamic BIA.

We evaluate clinical prognostic index (individual severity index –ISI-), analytical inflammatory parameter (C-reactive protein) and chronic health index (Karnofsky –K-). We evaluate mortality and renal replacement therapy requeriment.

Exitus 27%.

We use SPSS 20.0.

RESULTS

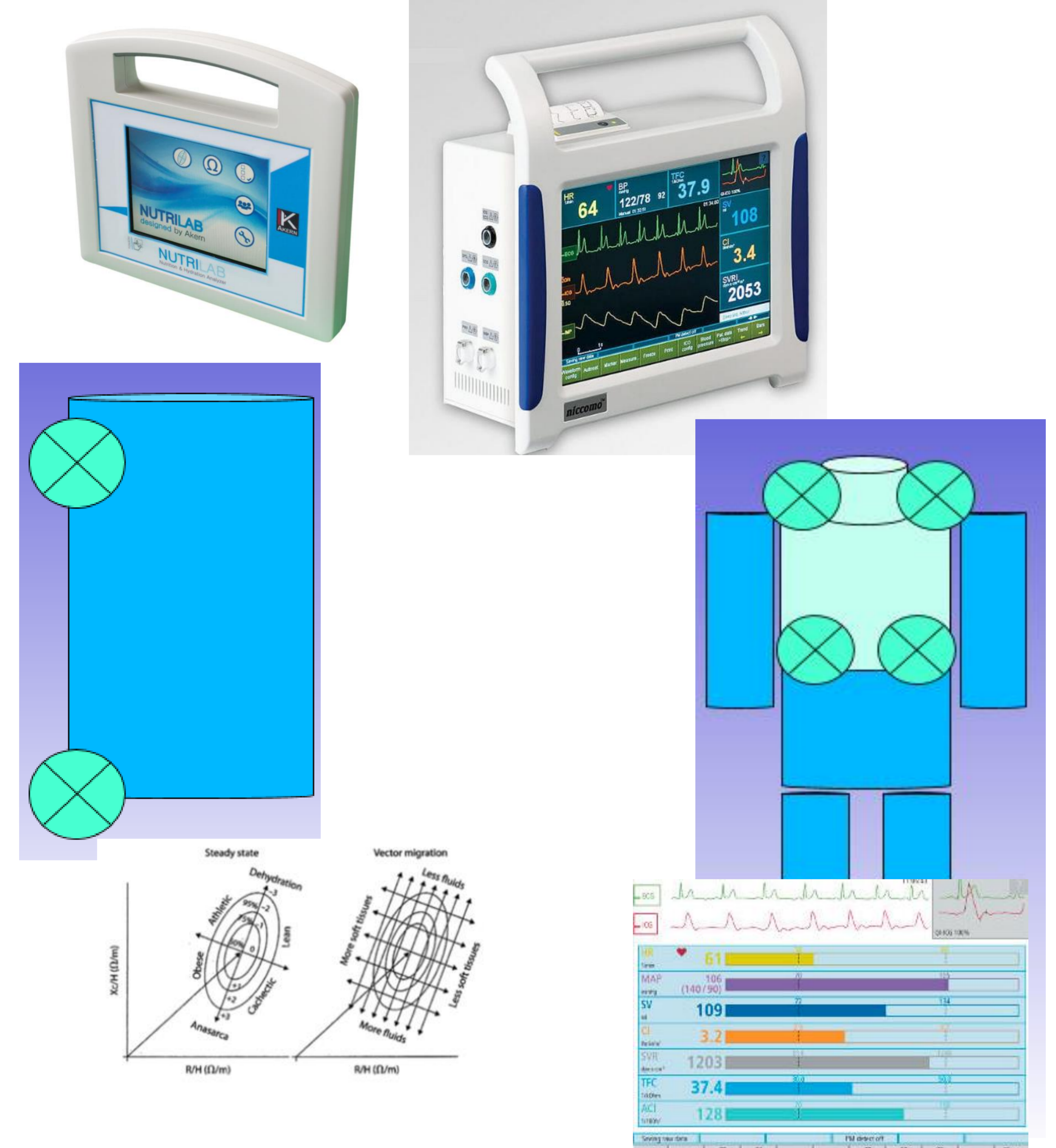
STUDY A:

ECW/ICW and ECW/TBW was associated with prognostic index, clinical and analytical parametes in AKI (table 1).

ECW/ICW was associated with risk mortality (OR 2.313 p=0.004 CI 95% 1.308-4.092), and ECW/TBW also (OR 5.539 p=0.018 CI 95% 1.333-23.007) .

The AUC with ECW/ICW was 0.773 (p=0.001, CI 95% 0.672-0.874) and with ECW/TBW was 0.734 (p=0.003, CI 95% 0.625- 0.844) to survive.

Extracelular corporal volumen was not associated with renal replacement therapy requeriment.



RESULTS

STUDY B:

Renal replacement therapy requeriment was associated with higher FVT (p= 0.005 37/49.2 l/kOhm), and ventilatory support requeriment also (p=0.005 37 vs 49.2 l/kOhm).

FVT was associated with C reactive protein (r=-0.310, p= 0.046). FVT not was associated with mortality.

Table 1:

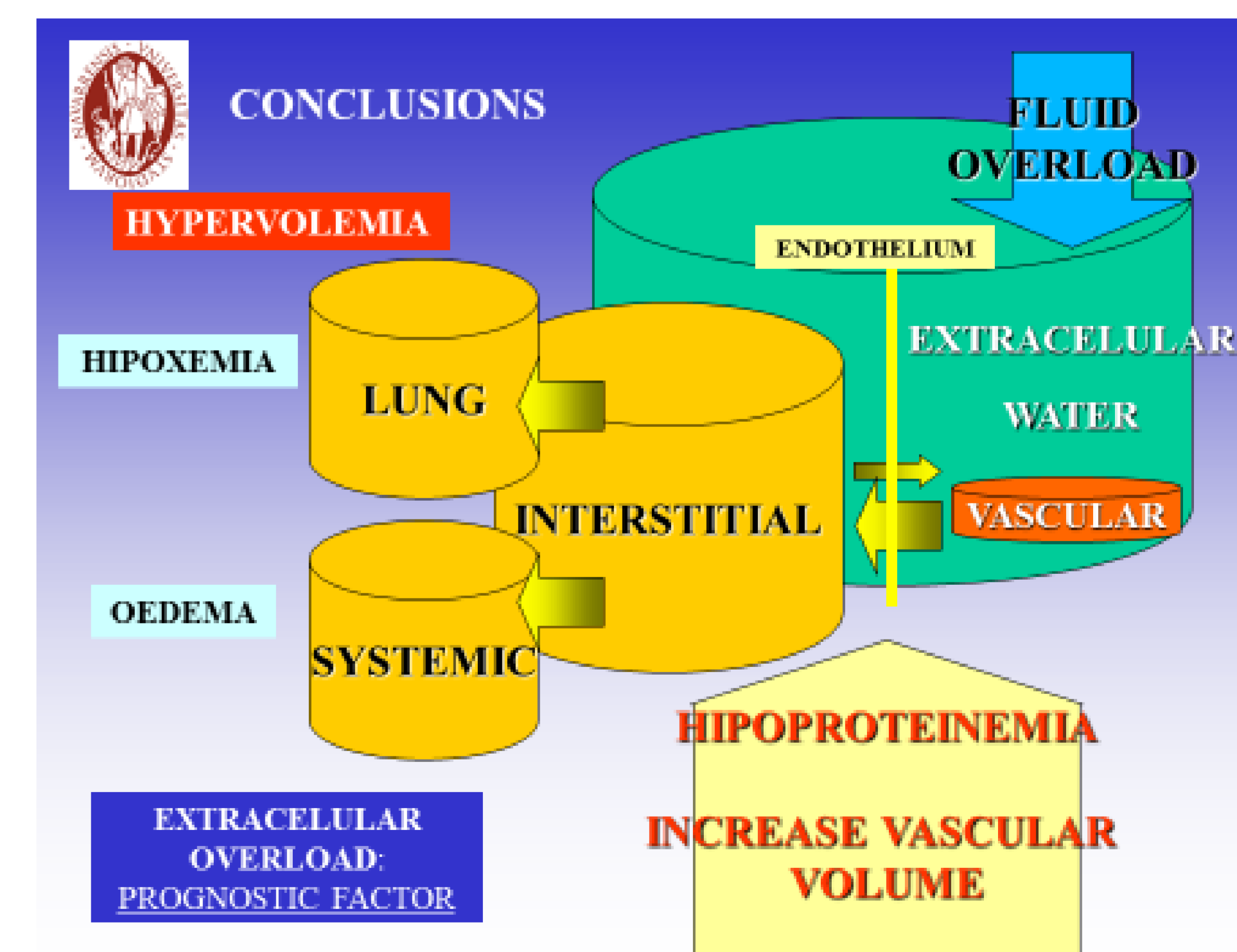
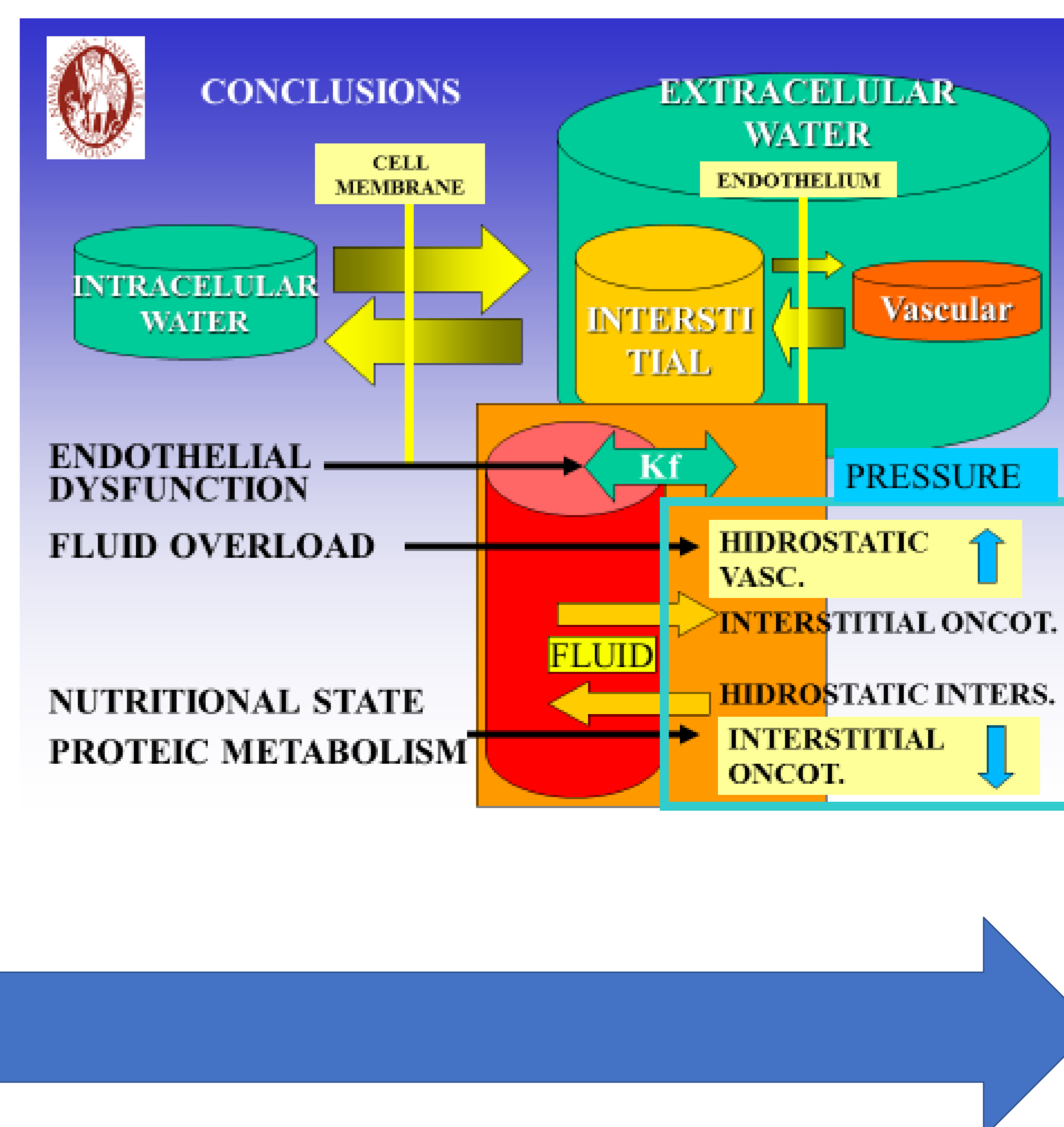
	ISI	CRP	K
ECW/ICW	r=-0.240, p=0.002	r=0.224, p=0.006	r=-0.253 p<0.002
ECW/TBW	r=-0.115 p=0.148	r=0.116 p=0.158	r=-0.242 p=0.002

ECW/ICW: EXTRACELLULAR/INTRACELLULAR WATTER RATIO. ECW/TBW: EXTRACELLULAR/TOTAL BODY WATTER RATIO. ISI: INDIVIDUAL SEVERITY INDEX. CRP: C-REACTIVE PROTEIN. K: KARNOFSKY.

CONCLUSIONS

Higher ECW/ICW or ECW/TBW are associated with poor prognosis in AKI. **Extracelular hypervolemia** are related with inflammatory, protein metabolism, and health status prior to the event.

Thoracic hypervolemia was associated with respiratory failure and renal replacement therapy requeriment. Both BIAs can used to made a better AKI patient triage.



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