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BC Critical Care Network Update - May 2021

COVID Literature

Critical Covid Phenotypes

Fibrotic-like CT Alterations in COVID-19: Distinct Patterns of Temporal Evolution

Authors: Leticia Kawano-Dourado[1,2,3], Juan I. Enghelmayer[4], Dyvia Patel[5], Roberta Fittipaldi[3], Adriana Jardim[6], Juliana Puka[3], Tarsila Vieceli[7], Jennifer Loso[5], Daniel Samolski[8], Adrian Caser[4,9], Carlos R. R. Carvalho[3], Marie-Pierre Debray[10], Bruno Crestani[1,11], Raphael Borie[11].

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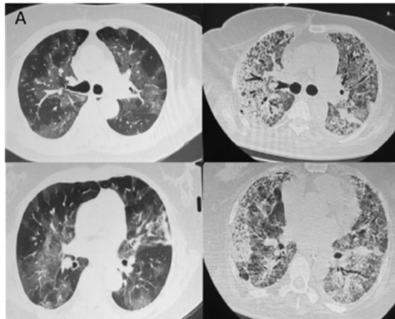
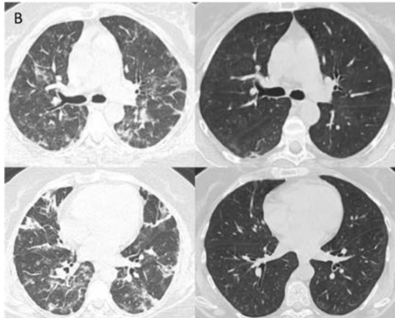
2 HCor Research Institute, Hospital do Coracao, Sao Paulo, Brazil

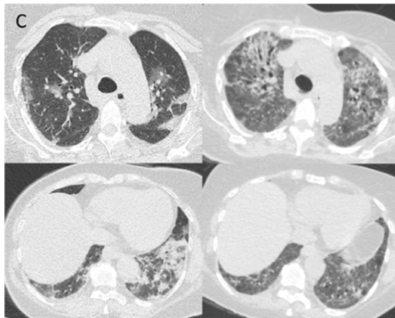
In this pre-print case series (N-23)from Brazil and Frances, ILD authors describe 3 phenotypes in severe/critical covid dx.



A: worsening / no improvement (52%)



B: Improvement / resolution (35%)



C: improvement in the bases w/ persistent alt. in the upper lobes (13%)

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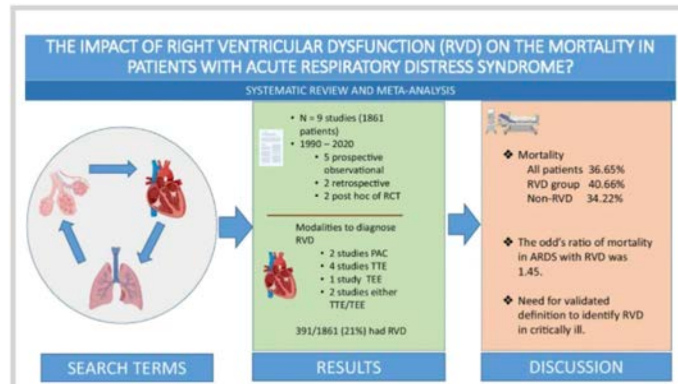
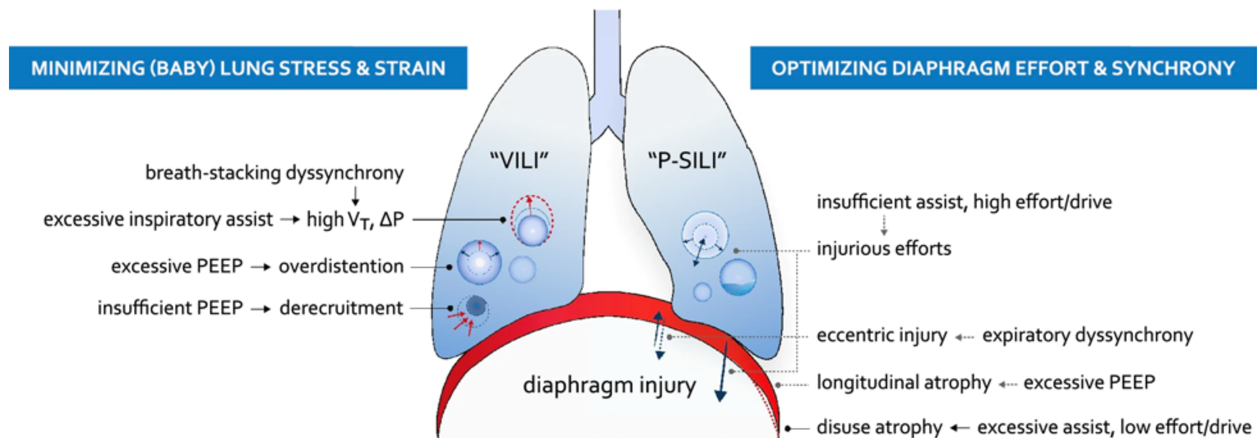
RV dysfunction and Mortality with ARDS

Not surprising, [RVD is associated with increased mortality in ARDS]



Monitoring diaphragmatic protection: VILI - PSILI, its all bad.

In this nice conceptual review, the reader is reminded to ask the RTs about the Occlusion Pressure as a marker of patient inspiratory effort (P0.1/Pocc). Its not just Plats, PEEPS, PtpPlat etc.

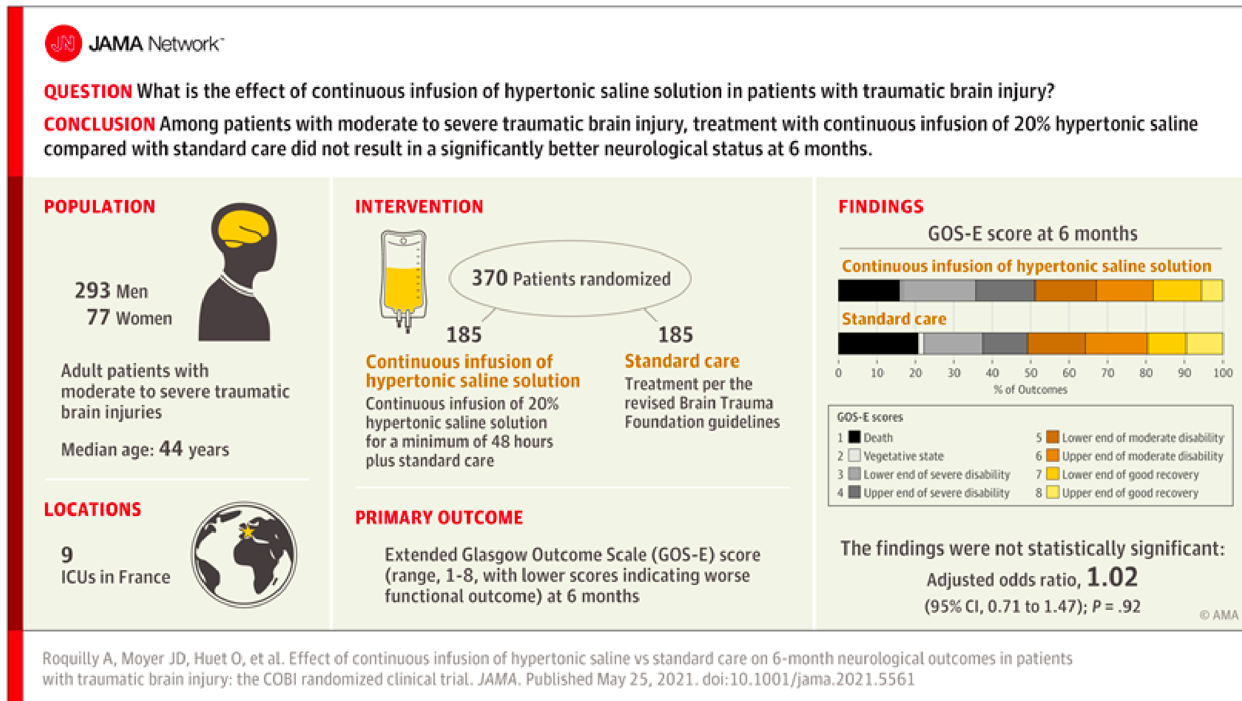


Also, check this out for a more condensed analysis.

Non-Covid Literature

Don't use infusions of hypertonic saline: Stick with the Bolus

Don and Myp have been fighting this KT battle for some time, but JAMA finally published an



RCT that hopefully will put this to bed.

Early pan-Scan in OHCA = You can't fix what you don't see

In this small series, the utility of CT Pan Scan (dubbed "Sudden Death Computed Tomography"). AKI results are similar, with only one CT patient requiring renal replacement.

	Adjudicated cause of OHCA event (N = 104), n (%)	SDCT diagnosis of OHCA cause, n /N (%)
Diagnosable by SDCT (n = 41)	41 (39%)	39/41(37%)
Acute coronary syndrome	14[a]	13/14 (95%)
Pneumonia	9	9/9 (100%)[b]
Hemorrhagic stroke	2	2/2 (100%)
Pulmonary embolism	5	5/5 (100%)
Abdominal catastrophe	3	3/3 (100%)
Perforated viscus	2	2 (100%)
Mesenteric ischemia	1	1 (100%)
Heart failure	6	5/6 (83%)
Not diagnosable by SDCT (n = 63)		
Substance use	23	–
Seizure	6	–
Unknown	8	–
Asthma	5	–
Electrolyte disorder	6	–
Valvular heart disease	2	–
Other	15	–

Post cardiac arrest and still in shock? Use that Impella earlier

In 81 patients supported with an Impella 2.5 transaortic LV support catheter post cardiac arrest, initiating support prior to PCI was associated with better outcomes and improved LV recover (51 vs 28% MORTALITY)

Closing the Left Atrial Appendage

Is your Patient getting Cardiac surgery? Are you a cardiac surgeon? Read this NEJM article, showing significant reduction in the incidence of stroke, after left atrial appendage closure during cardiac surgery.

Iatrogenesis

This review covers the usual suspects, and the rare iatrogenic metabolic and electrolyte disturbances we cause on the regular in our units. Worth the read.

Acid Base Disorder	Medication	Mechanism of Toxicity
Metabolic acidosis3, 4, 5		
Elevated anion gap metabolic acidosis	Linezolid, metformin, propofol, valproic acid	Mitochondrial toxicity, type B lactic acidosis
	Medications containing propylene glycol	Propylene glycol metabolized to lactic acid
Normal anion gap metabolic acidosis	Carbonic anhydrase inhibitors	Decrease bicarbonate reabsorption in the proximal tubule
	Angiotensin-converting enzyme inhibitors, cyclosporine, heparin, potassium-sparing diuretics, tacrolimus, trimethoprim, pentamidine	Hyperchloremic metabolic acidosis, inhibition of Na^+ reabsorption, type 4 renal tubular acidosis
	Amphotericin B	Type 1 renal tubular acidosis
Metabolic alkalosis[4]		
Metabolic alkalosis	Loop and thiazide diuretics	Distal H^+ and Cl^- excretion and associated HCO_3^- reabsorption
	Penicillins	Increased aldosterone synthesis and K^+ secretion

Shifting Hyperkalemia: Are we doing it wrong?

In this meta-analysis, further argument is made for 5 units rather than 10 units of insulin for shifting hyperkalemia.

Evidence you didn't need: Using a stylet improves intubation success

I just had to. First pass success is improved with a stylet. Go figure.

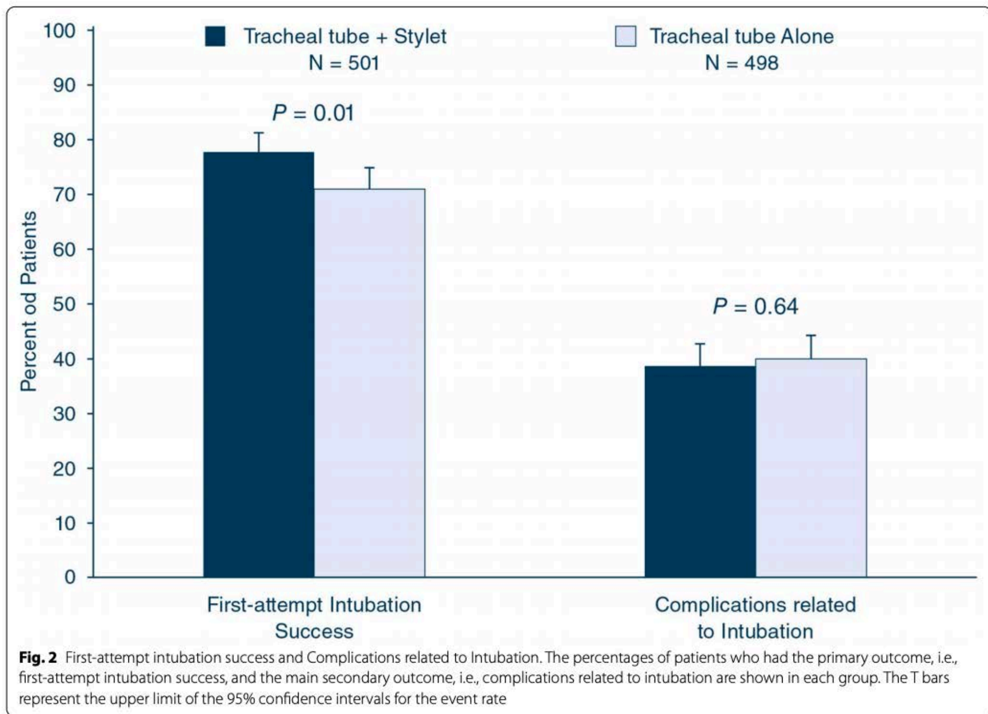


Fig. 2 First-attempt intubation success and Complications related to Intubation. The percentages of patients who had the primary outcome, i.e., first-attempt intubation success, and the main secondary outcome, i.e., complications related to intubation are shown in each group. The T bars represent the upper limit of the 95% confidence intervals for the event rate