Dr. Virginia Stewart's selections: 2009 SAEM Abstracts, New Orleans

Title/Abstract, (Author)	Patient group	Study type Methods	Outcomes	Key Results	Study Weakness
Natriuretic Peptides Fail to Predict Short Term Mortality in Emergency Dept patients with Acute Heart Failure (AHF) (Nowak, Peacock, et al) *Abstract on secondary outcomes of BACH Trial	1641 patients total Age: 64 +/- 17 years Exclusion: unable to consent due to condition or altered ms, non-HF SOB and trauma, Dialysis patients	Prospective 15 centers (8 US, 6 Europe, 1 New Zealand) All markers blinded except NP, used at discretion of treating MD AHF gold standard dx determined by 2 cardiologists	Of 1641 patients, 568 dx with AHF: -431 white -336 prior HF -271 with CAD -438 HTN -218 DM -171 CRF Of those with AHF, 21 died within 14 days of ED visit. ROC curves to eval prognostic ability of BNP and NTproBNP for 14d mortality with AHF had AUCs of 0.51 (p 0.756) and 0.59 (p 0.168)	NP levels measured in ED are strong predictors of longer term (greater than 3 mo) death rates, but are poor indicators of short term mortality in pts presenting to ED with AHF. Need to identify alternative markers or methods to ID pts at high risk of death within 14 days	Within BACH trail there was a small number of all cause mortality cases and even less cardiac deaths within 14-30 days of presentation to the ED. No discussion of trends of BNP/NP Multiple financial disclosures??
ED Prediction of Short Term Mortality in Acute HF: Results of the International BACH trial (Nowak, Peacock, et al) *Abstract on primary outcomes of BACH trial	1641 patients total Age: 64 +/- 17 years Exclusion: unable to consent due to condition or altered ms, non-HF SOB and trauma, Dialysis patients	Prospective 15 centers (8 US, 6 Europe, 1 New Zealand) All markers blinded except NP, used at discretion of treating MD AHF gold standard dx determined by 2 cardiologists	Of 1641 patients, 568 dx with AHF: -52% male -36% prior hx HF -21 (3.5%) died within 14 days -65 (11.4%) died within 90 days	Both argentine vasopressin (copeptin) and adrenomedullin alone and in combination demonstrate superior short term mortality prognostic ability when compared to NPs and other evaluated markers	Within BACH trail there was a small number of all cause mortality cases and even less cardiac deaths within 14-30 days of presentation to the ED. No discussion of trends of biomarkers Multiple financial disclosures??

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Prospective Evaluation of Respirophasic Inferior Vena Cava (IVC) variation in the assessment of Acute Dyspnea (Miller, Strote, Hegg, et al) Henry Ford Hospital	Convenience sample of 55 patients age 55 and older with acute SOB. Mean age: 71 +/- 9 years Exclusions: trauma, portal htn, recent abd surgery, mechanical ventilation	Prospective Observational study	33 patients enrolled: -57% had hx CHF -82% had hx htn Mean respirophasic IVC variation dx with CHF was 27% (95% CI 17-37%) vs 53% (95% CI 37-70%) in pts diagnosed with euvolemic cause of dyspnea ($p<0.0005$) The mean expiratory IVC diameter of pts with CHF was 1.96 cm (95% CI 1.7-2.22 cm) vs 1.45cm (95% CI 1.23-1.66cm) for pts without CHF ($p<0.005$) Respirophasic IVC variation of <33% was 74% sensitive and 79% specific for the dx of chf with a kappa coefficient of 0.49 (95% CI 0.19-0.79)	In patients with acute sob, <33% respirophasic IVC variation has a moderate correlation with the dx of CHF	Measurements took 2-8 minutes to complete, depending on operator, multiple operators with variable skill and training Small study size No gold standard dx for CHF

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Contrast Induced Nephropathy in the ED setting: Incidence, Risk Factors and Outcomes **Mitchell, Jones, Tumlin, Kline** **CMC, Univ of Tenn @ Chattanooga**	635 ED patients	Prospective Enrollment at time a CT was ordered (-0.5 SD +/- 3 hours of contrast admin) Serum Cr was measured at baseline and within 2-7 days following contrast admin	Primary outcome CIN+ was defined as an increase in Serum Cr of 0.5mg/dL or 25% above baseline. Secondary outcomes: severe RF and death within 45 days 65 pts (10%; 95% CI 7-13%) developed CIN+. 45 day incidence of sevree renal failure was 9% in CIN+ vs 0.2% in CIN- (95% CI for differernce 4-19%) Death was 8% in CIN+ vs 1% CIN- (95% CI 3-17%) Previously reported risk factors of dm, age >50 years, , and CAD were assoc with an incr risk of CIN; however, Chronic renal insuff, anemia, and CHF were NOT. Novel risk factors of measured diastolic htn >90 mmHg (OR 2; 1.2-3.7) , and HIV (OR 44; 1.2-12.9) were assoc with incr risk of CIN+ Renoprophylaxis (bicarb, NAC, saline hydration) were not assoc with a decrease in CIN+	Incidence of CIN in ED pts undergoing CT with IV contrast is higher than previous estimates and is assoc with a significant increase in severe renal failure and death at 45 days. Traditional risk factors such as CRI did not predict CIN in this population. Other new risk factors such as diastolic htn and HIV require further investigation in the ED setting	No breakdown of inpt and outpt % given at this time For inpatient population-uncertain if additional CTs or contrast exposure