Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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**48 COVID-19 and H1N1 Pneumonia: Reanalysis and Comparison of Two Cohorts**

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Background: Influenza A H1N1 and SARS-CoV2 have been responsible for important viral respiratory disease epidemics in the 21st century. Both diseases (H1N1 flu and COVID-19) usually present with upper respiratory infection and may evolve into pneumonia. This study evaluated similarities and differences between these viral epidemics in hospitalized patients.

Methods: This is a reanalysis of retrospectively enrolled cohorts in a tertiary hospital in São Paulo, Brazil during two different types of viral respiratory epidemics. All RT-PCR confirmed H1N1 patients originally enrolled from July 12 to August 17, 2009 were included. We paired these patients by sex and age 1:1 using propensity score matching with our COVID-19 database of patients, which includes RT-PCR confirmed COVID-19 patients from March 2020 to March 2021. The primary outcome was hospital death. We analyzed the following variables as secondary outcomes: ICU care, ICU length of stay, signs and symptoms at admission, vitals at admission and 72h blood tests. We used R software version 4.2.0 for statistical analysis (significance at 0.05).

Results: We included 52 H1N1 patients and 52 matched COVID-19 patients. Enrolled patients were on average 41 years old and 41% were female. Regarding the primary outcome, hospital death was more common for COVID-19 patients (52% vs 89%, p < 0.001), and ICU stay was longer for them (1 vs 10 days, p < 0.001). Cold symptoms, including fever (92% vs 65%, p = 0.001), sputum (25% vs 4%, p = 0.003), coryza (79% vs 19%, p < 0.001) and odynophagia (39% vs 11%, p = 0.002) were more common in H1N1 patients.

Conclusion: BV differentiates bacterial from viral etiology in children for whom blood culture was taken during their ED evaluation. The test has the potential to improve patient selection for blood culture testing in the acute care settings, raising the possibility of reducing laboratory burden as the laboratory could abort processing a blood culture order when the BV test yields a viral result.

**Disclosure:** MeMed Diagnostics - Payment made to institute for conduct of the Apollo study

**Investigator:** MeMed Diagnostics - Payment made to institute for conduct of the AutoPilot study

**Disclosure:** MeMed Diagnostics - Payment made to institute for conduct of the AutoPilot study

**Disclosure:** MeMed Diagnostics - Compensated for his time

Yes, authors have interests to disclose

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**Comparison of Two Cohorts**

**407 eligible Apollo children**

**172 with blood cultures taken from them**

**135 with viral adjudication**

**16 with bacterial adjudication**

**Indeterminate adjudication n=21**

**BV score bacterial n=13**

**BV score viral n=125**

**BV score equivocal n=7**

**BV score bacterial n=15**

**BV score viral n=1**

**BV score equivocal n=0**

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*This was a 2-year-old child presenting with fever, cough and a wailing of the left eye. Physical exam demonstrated an edematous left eyelid, without discharge. The patient was diagnosed with periorbital cellulitis and inflammation, admitted for intravenous antibiotics and discharged after 6 days with continued oral antibiotics. Blood culture was negative, and patient did well on follow up.

**Equivocal scores represent valid test results but do not provide etiological information.

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**Annals of Emergency Medicine** S25

Volume 80, No. 45 : October 2022
Comparing the Safety and Efficacy of a Rapid High-Sensitivity Cardiac Troponin I Protocol Between Hospital-Based and Free-Standing Emergency Departments

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Study Objectives: Significant variability exists in patient population and diagnostic capabilities of large academic tertiary, community-based hospital, and free-standing emergency departments (ED). Current high sensitivity cardiac troponin I (hs-cTnI) research has been conducted almost exclusively in hospital-based ED (HBED) settings and the translation of these protocols into the free-standing EDs (FSED) has yet to be explored. This study compared the safety, efficacy, and ED throughput of applying a 0/1-hour, rapid-rule-out protocol using hs-cTnI for exclusion of acute myocardial infarction (AMI) in HBEDs and FSEDs.

Methods: This was a pre-planned, secondary analysis of a stepped wedge cluster randomized trial of patients evaluated for possible AMI in 9 EDs in an integrated health system from July 2020 through March of 2021. Five of the EDs were randomized trial of patients evaluated for possible AMI in 9 EDs in an integrated health system from July 2020 through March of 2021. Five of the EDs were randomized to HBEDs and four were FSEDs. The trial arms included a new 0/1-hour rapid-rule-out protocol using hs-cTnI for exclusion of acute myocardial infarction (AMI) in HBEDs and FSEDs.

Results: The included 32,609 patients, of whom 26,957 were seen in HBEDs and 5,652 were seen in FSEDs. Safe discharge from HBED occurred 53% (59471/11062) of the time in the standard care arm and 50.4% (8,085/15894) under the rapid rule-out protocol (aOR 1.04, 95% CI 0.94 - 1.15, p = 0.5). Safe discharge from a FSED occurred 86.2% (2186/2445) of the time in the standard care arm and increased to 95.1% (3052/3209) under the rapid rule-out protocol (aOR 1.48, 95% CI 1.03 – 2.13; p = 0.05). Initiation of a rapid rule-out protocol had no significant impact on overall ED length of stay (aOR 1.00, 95% CI 0.98-1.03, p = 0.8). There was a statistically significant reduction in FSED length of stay with application of a rapid rule-out protocol (3.43 hours (2.55, 4.58) vs. 3.97 hours (2.88, 4.77) using standard care, aOR 0.91, 95% CI 0.87-0.95, p <0.001). The percentage of patients who rule-out with their initial hs-cTnI (>4 ng/L) at FSEDs (74%) was significantly larger when compared to hospital based EDs (54%), p<.001. Safe discharge data for all 9 ED sites is detailed in table 1.

Conclusion: Implementation of a hs-cTnI rapid 0/1-hour protocol to evaluate for AMI in FSEDs is feasible and had greater impact on safe ED discharge and length of stay compared to HBEDs.