703 | Changes in Emergency Department Pediatric Psychiatric Visits Following the Arrival of COVID-19

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Background and Objectives: In March of 2020, COVID arrived in the New York Metropolitan area. Total ED visits decreased markedly, likely because of fear of exposure to the virus as well as social isolation mandates. School closings, isolation from peers, quarantining within families and job disruptions triggered mental health struggles. A CDC study showed that compared to 2019, the proportion of ED mental health related visits for children increased in 2020 by 44%. The goal of our study was to determine whether there was a change in the proportion of pediatric ED visits for depression and/or suicidal ideation or attempts (DS) and anxiety following the arrival of COVID.
Methods: Design: Retrospective cohort. Setting: EDs of 8 hospitals within 150 miles of New York City, with total ED volumes in 2019 of 30,000 to 120,000. Hospitals were teaching and non-teaching, in rural, suburban and urban areas. Population: Consecutive patients ages 5–21 years between March 1 and November 30 in 2019–2022, as COVID arrived in March 2020. Data analysis: We identified patients with DS and anxiety using International Classification of Disease codes (version 10), choosing those with at least 25 visits over the four years. We tallied the number of DS and anxiety ED visits in 2019–2022. We calculated the proportion of these visits to total ED visits in this age group in 2019–2022. We report the changes in these proportions from the base year of 2019 to 2020–2022, along with 95% confidence intervals (CIs).
Results: The database contained 1,542,684 total ED visits, of which 251,993 were for patients age 5–21 years (72,872, 39,037, 46,103 and 93,981 in 2019–2022, respectively), The mean ages were 13, 14, 14 and 9 years; females comprised 49%, 50%, 51% and 47% of patients in 2019–2022, respectively. In 2019–2022, the numbers diagnosed with DS were 2033, 1379, 1453 and 1206, and, with anxiety, 955, 667, 856 and 971, respectively. The changes in the proportions of DS in 2020, 2021 and 2022, compared to the baseline of 2019, were +27% (95% CI: +18%, 35%), +13% (95% CI: +6%, 21%) and -54% (95% CI: -57%, -51%); and for anxiety, +30% (95% CI: +18%, 44%), +42% (95% CI: +29%, 55%) and -21% (95% CI: −28%, −14%), respectively.
Conclusion: Following the arrival of COVID, the proportion of pediatric ED visits for depression and/or suicidal ideation or attempts and anxiety increased in 2020–2021, but decreased in 2022. These changes may reflect changing concerns about COVID over time.

704 | Emergency Department Restraint Times and Medication Use With a Restraint Chair Compared to 4-Point Restraints

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Background and Objectives: Physical and chemical restraints are commonly used in the emergency department, but ongoing evaluation is needed to ensure equity in their administration. Prior research in inpatient settings has suggested that restraint periods are shorter and fewer adjuvant medications are used when a restraint chair is used as compared to 4-point restraints.
Methods: We prospectively collected data for all patients who had a behavioral code called in the emergency department of our Level-1 Trauma Center over a 1-year period from 10/01/2021 to 09/30/2022. We recorded patient demographics, visit characteristics, and certain aspects of restraint use including type of restraint, length of restraints, and medication use.
Results: Out of 421 behavioral codes, 32.9% of patients were not placed in restraints, 31.9% were placed in the restraint chair, and 35.3% were placed in 4-point restraints. No significant disparities in restraint use were identified. Average time in restraints was 55.4 min for those in the restraint chair (IQR 30–62.5 min) and 90.4 min for those in 4-point restraints (IQR 54.5–115.5 min), which was statistically significant ($p < 0.0001$). Medications were given to 63.9% of those who were not restrained, 91.6% of those placed in the restraint chair, and 92.1% of those placed in 4-point restraints. Repeat medications were given to 18.3% of those who were not restrained, 30.1% of those in the chair, and 37.1% of those in 4-point restraints. Differences in medication administration were not statistically significant. Patients placed in 4-point restraints were more likely to have been given medications prior to arrival or to have used alcohol or other drugs.
Conclusion: This single center project suggests that use of a restraint chair during behavioral codes is associated with shorter times in restraints than when standard 4-point restraints are used. Patients who are placed in the restraint chair may require less initial and repeated medication than those placed in 4-point restraints. This project did not account for confounders of patient presentation that may influence care providers' decisions to use restraints or medications in behavioral codes or to call them in the first place.

705 | Surveillance for Low-Risk Patients With Subsegmental Pulmonary Embolism: Prevalence and Eligibility

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Background and Objectives: The 2016 CHEST guidelines recommend structured surveillance (using bilateral lower-extremity

sonography in 5–7 days) without anticoagulation (AC) for ambulatory patients with isolated subsegmental pulmonary embolism (SSPE) lacking active cancer, deep vein thrombosis, impaired cardiopulmonary reserve, and increased risk of recurrent venous thromboembolism. Guideline uptake in practice is unknown, as is the proportion of SSPE outpatients eligible for surveillance.

Methods: This retrospective cohort study included adult health plan members with an outpatient diagnosis of acute SSPE across 21 community medical centers in Northern California from 1/2017 to 12/2021. We excluded those with a concomitant diagnosis requiring inpatient care, already on AC, on hospice, or with abnormal vital signs (VSs): systolic blood pressure <90 mm Hg, pulse ≥110 bpm, or pulse oximetry ≤92%. We defined surveillance as no AC but planned imaging <14 days. We defined surveillance eligibility using two sets of criteria: (1) the above CHEST recommendations and (2) adding 2 exclusion criteria (≥65y and multiple emboli, per Le Gal 2022). Outcomes were surveillance prevalence and eligibility. We used descriptive statistics with 95% confidence intervals (CIs).

Results: Among 666 outpatients with acute SSPE (= all SSPE), we excluded 437: 253 (co-diagnoses), 41 (AC), 3 (hospice), and 140 (abnormal VSs). The remaining 229 (= lower-risk SSPE) underwent chart review: 52% were male, median age 58y. Highest level of index care was clinic in 7.0%, emergency department in 62.0%, and observation/hospital in 31.0% of patients. Only 6 initially received no AC. One underwent structured surveillance: 0.2% (95% CI 0%-0.8%) of all SSPE; 0.4% (95% CI 0.01%-2.4%) of lower-risk SSPE. Thirty-five patients were surveillance-eligible via CHEST criteria (5.3% of all SSPE; 15.3% of lower-risk SSPE) and 15 via enhanced criteria (2.3% of all SSPE; 6.6% of lower-risk).

Conclusion: CHEST guidelines recommending structured surveillance in select SSPE patients had almost no influence on clinical practice from 2017 to 2021 in a health care setting with ready access to timely imaging and follow-up. Only a small percentage of SSPE outpatients with low-risk attributes may have been eligible for surveillance. If forthcoming trials find surveillance safe and effective, significant uptake into clinical practice may require more than passive diffusion.

706 | Bilateral Emboli and Tachycardia Predict Hospitalization of Patients With Low-Risk Pulmonary Embolism

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Background and Objectives: Some patients with acute pulmonary embolism (PE) will suffer adverse clinical outcomes despite being low risk by clinical decision rules. Factors that emergency department (ED) physicians use to decide which low risk patients require hospitalization are unclear, although several key predictors of adverse clinical outcomes have been identified. Heart rate (HR) and embolic burden on computed tomography angiography may be associated with increased risk of short-term mortality for acute PE but robust prognostic evidence is lacking. We hypothesized that these variables would be associated with an increased likelihood of hospitalization for patients with acute PE who were designated as low risk by the PE Severity Index.

Methods: This was a retrospective cohort study of 461 adult ED patients with acute PE and a PE Severity Index score <86 points from January 2019 to February 2020 in the 21 community-based EDs of Kaiser Permanente Northern California. Primary exposures were highest observed ED HR, most proximal embolus location (lobar or more proximal) and embolism laterality (bilateral PE vs. unilateral PE). The primary outcome was hospitalization. We analyzed clinical, laboratory and radiographic data from the electronic medical record and compared characteristics of hospitalized and home-going patients using multivariate analysis.

Results: We identified 461 low risk patients who met inclusion criteria. Most patients (57.5%) were hospitalized, and 2 patients (0.4%) experienced 30-day mortality. There were 142 (30.8%) patients who were at elevated risk due to the presence of ≥1 Hestia criteria or biochemical/radiographic right ventricular dysfunction. Predictor variables independently associated with the likelihood of admission were highest observed ED HR ≥110 beats per minute (vs HR < 90 beats per minute) (adjusted odds ratio [OR] 3.11; 95% CI 1.07–9.57 p = 0.041), highest ED HR 90–109 (OR 2.03; 95% CI 1.18–3.50 p = 0.011) and bilateral PE (OR 1.92; 95% CI 1.13–3.27 p = 0.016). Proximal embolus location was not associated with likelihood of hospitalization (OR 1.19; 95% CI 0.71–2.00 p = 0.51).

Conclusion: Most patients were hospitalized, often with recognizable high-risk characteristics that were not accounted for by the PE Severity Index. Highest ED HR≥90 and bilateral PE were associated with a physician's decision for hospitalization and these variables warrant further study.

707 | Identifying Novel Opportunities to Improve Smoking Cessation Among Emergency Department Observation Unit Patients (Oncologic Emergencies Interest Group Sponsored)

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Background and Objectives: Tobacco use remains the leading preventable cause of morbidity and mortality worldwide, and emergency department (ED) patients use tobacco at a rate almost double that of the general population. Many of these patients require short-term hospitalization in the ED observation unit (EDOU). This study aims to describe the rate of tobacco use by EDOU patients, as well as assess current practices for smoking cessation about EDOU providers.

Methods: We performed a retrospective cohort study of 100 patients admitted to the ED observation unit from 5/1/2022–5/31/2022.