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Pediatric Surgery

5-2022

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Kevin Roby

Catherine Barkach

Diane Studzinsk
Beaumont Health

Nathan M. Novotny
Beaumont Health

Begum Akay
Beaumont Health

See next page for additional authors

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Recommended Citation

Roby K, Barkach C, Studzinski D, Akay B, Brahmamdam P. Spontaneous pneumomediastinum in children is not associated with esophageal perforation. American Pediatric Surgical Association Annual Meeting (APSA); 2022 May; San Diego, CA and at the Michigan Chapter of the American College of Surgeons Annual Meeting. 2022 May; Traverse City, MI.

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Authors

Kevin Roby, Catherine Barkach, Diane Studzinsk, Nathan M. Novotny, Begum Akay, and Pavan Brahmamdam

P6

SPONTANEOUS PNEUMOMEDIASTINUM IN CHILDREN IS NOT ASSOCIATED WITH ESOPHAGEAL PERFORATION

Kevin Roby, MS¹, Catherine Barkach, MS², Diane Studzinski, BS³, Nathan M. Novotny, MD, FACS, FAAP⁴, Begum Akay, MD⁵, Pavan Brahmamdam, MD, MS⁶

¹Beaumont Health, Oakland University William Beaumont School of Medicine, Royal Oak, MI, USA, ²Beaumont Health, OUWB School of Medicine, Rochester, MI, USA, ³Department of Surgery, Beaumont Health, Royal Oak, MI, USA, ⁴Beaumont Children's, Royal Oak, MI, USA, ⁵Beaumont Children's, OUWB School of Medicine, Birmingham, MI, USA, ⁶Beaumont Children's, OUWB School of Medicine, Royal Oak, MI, USA

Purpose: We hypothesized that esophageal perforation is not a common etiology for spontaneous pneumomediastinum (SPM), and that SPM is a self-limited disease not requiring routine admission.

Methods: We performed a retrospective review of patients, ages 0 to 21 years, diagnosed with SPM in one hospital system (five hospitals) from 2009 – 2019. Cases were identified using ICD-9 and 10 codes and confirmed through chart review. Cases were excluded for trauma, severe infections, or subsequent development of SPM after admission for a separate diagnosis. Data regarding patient characteristics, diagnostic tests, and outcomes were collected, and summary statistics were performed.

Results: We identified 180 cases for inclusion and analysis. The median age at diagnosis was 16 years, and 66% were male. The most common presenting symptom was chest pain (58%), followed by cough (45%), shortness of breath (43.9%), vomiting (22.2%) and neck pain (19%). Only 14 patients (7.8%) complained of difficulty swallowing. Asthma was the most common underlying condition noted (32.8%). Chest radiography was performed in 97% of patients. 33% of patients underwent a chest computed tomography (CT), and 46 (26%) underwent an esophagram. There were no esophageal perforations noted in this cohort and no interventions specifically for pneumomediastinum. A patient required intubation for asthma exacerbation and underwent a tube thoracostomy for a pneumothorax post-intubation. 122 patients were admitted with a median length of stay of 1.60 days. Outpatient follow-up imaging showed resolution in 81% (17.2 days) and improvement in 17% (12.5 days).

Conclusion: In our series, SPM was not associated with esophageal perforation and did not require specific intervention. We recommend avoiding CT scans and esophagrams unless there is discrete concern about the esophagus from the history. Admissions for SPM should be based on symptomatology and patient status, rather than the presence of SPM alone.