

PDS254

Scientific Posters

Common Indications for Chest Radiographs in the Pediatric Population: Are We Adding Value or Radiation?

Thursday, 12:15-12:45 PM

Location: Learning Center, Hall D

PARTICIPANTS:

Ann Packard MD (Presenter): Nothing to Disclose

Kristen B Thomas MD: Nothing to Disclose

CITE THIS ABSTRACT

PURPOSE

Reducing radiation exposure is an ongoing endeavor of both radiologists and clinicians, especially in the pediatric population. This retrospective study evaluated common indications for chest radiograph in the pediatric population and whether changed clinical management of the patient with the hope of guiding clinicians away from exposing a vulnerable population to unnecessary radiation.

METHOD AND MATERIALS

Previously acquired chest radiographs were reviewed from 2008-2014 in a pediatric population from birth to 17 years. Indications selected for evaluation included chest pain, syncope/presyncope, dizziness, postural orthostatic tachycardia syndrome (POTS), spells, and cyclical vomiting. A total of 719 chest radiographs were reviewed including limited clinical history; 377 for chest pain, 98 for syncope/presyncope, 21 for spells, 37 for POTS, 185 for dizziness, and 1 for cyclical vomiting. Eight-two were excluded for congenital or other known heart disease, prior illness for which they were being currently imaged (i.e. chest pain with known pneumonia), intubation, or postoperative.

RESULTS

No patients with radiographs for indications including syncope, spells, POTS, dizziness, or cyclical vomiting had any finding which affected patient management. Insignificant findings such as minor pectus excavatum or central lines in good position were considered negative. Forty-five of 330 (13.6%) chest radiographs for chest pain were positive; 17 (5.1%) for pneumonia (5 of the 17 included either fever or pneumonia in the indication), 12 (3.6%) for bronchial inflammation, 4 (1.2%) for atelectasis, 2 (0.6%) for trauma (12 total included chest pain and trauma in the indication), and 1 patient each (0.3%) for pleural effusion, pneumothorax, bronchiectasis, and foreign body (2 total had chest pain and foreign body). Seven patients had chest pain with a history of sickle cell anemia, none which were positive.

CONCLUSION

In our pediatric patient population, no findings on chest radiograph to alter patient management were found for indications including syncope/presyncope, dizziness, spells, POTS, and cyclical vomiting. Chest radiographs for chest pain were positive greater than 10% of the time, the most common finding being pneumonia.

CLINICAL RELEVANCE/APPLICATION

Certain indications for chest radiograph may not add any benefit to the patient which should be

shared with our clinical colleagues to reduce radiation exposure in a pediatric population.