BACKGROUND

- Endoscopy is a common procedure to diagnose & manage GI disease in children
- Limited published data on adverse events (AE) in pediatric endoscopy
- 21.6% of AE’s reported at our institution related to fever

AIMS

- To examine rates of post-endoscopy fever (PEF)
- To describe clinical outcomes associated with PEF
- To evaluate the effect of a care algorithm in managing PEF cases

METHODS

- Prospective database of fever episodes within 72 hours following endoscopy at CHCO
- Fever episodes captured by parental report, ED visit, and/or hospital admissions
- 8-year period (July 2010-Dec 2018)
- 33 months into study period, PEF Clinical Care Guideline (CCG) was created (Figure 1) to standardize care and reduce unnecessary referrals
- Compared rates of hospital utilization before & after implementation of CCG

RESULTS

- Of 150 PEF cases, only 6 patients had identified endoscopy-related infection (4.0% of fever cases and 0.02% of all endoscopies)
  3 patients with perforation
  2 patients with aspiration pneumonia
  1 patient had percutaneous liver biopsy at the time of EGD and was found to have cholangitis with bacteremia

- Fever is mediated by circulating pyrogens (IL-1, IL-6, TNF-α) released in response to infectious pyogens or non-infectious inflammatory states, tissue damage, and toxins
- PEF in children rarely represents clinically significant infection & may be due in part to inflammation from tissue damage and/or physiologic stress
- Unanticipated care for the assessment of PEF is costly & can result in unneeded hospitalization, diagnostic testing, and patient/caregiver anxiety
- Implementation of a PEF CCG may reduce unnecessary care while maintaining patient safety, although multi-center studies are needed to confirm overall safety of similar CCG’s
- Rates of PEF were significantly higher in interventional cases than purely diagnostic endoscopy, which may support the hypothesis that fever in the majority of these cases may be related to release of inflammatory cytokines, proportional to the degree and/or duration of mucosal contact

DISCUSSION

- Fever is mediated by circulating pyrogens (IL-1, IL-6, TNF-α) released in response to infectious pyogens or non-infectious inflammatory states, tissue damage, and toxins
- PEF in children rarely represents clinically significant infection & may be due in part to inflammation from tissue damage and/or physiologic stress
- Unanticipated care for the assessment of PEF is costly & can result in unneeded hospitalization, diagnostic testing, and patient/caregiver anxiety
- Implementation of a PEF CCG may reduce unnecessary care while maintaining patient safety, although multi-center studies are needed to confirm overall safety of similar CCG’s
- Rates of PEF were significantly higher in interventional cases than purely diagnostic endoscopy, which may support the hypothesis that fever in the majority of these cases may be related to release of inflammatory cytokines, proportional to the degree and/or duration of mucosal contact

REFERENCES