Should We Make Less Fuss About Pus?

HOLSTER YOUR BROAD SPECTRUM

The study.

This study measured 2 known types of unnecessary antibiotic use for inpatient skin and soft tissue infections (SSTIs): (1) use of antibiotics with a broad spectrum of activity against aerobic Gram-negative pathogens; and (2) total treatment duration >10 days. The study was a planned secondary analysis of pediatric patients in a larger retrospective cohort of patients with SSTIs managed at hospitals in Colorado (84 of the 102 pediatric patients were treated at Children’s Hospital Colorado).

The key findings.

Two-thirds of children were exposed to either unnecessary broad-spectrum antibiotics, prolonged duration of antibiotic therapy, or both. This figure is probably a conservative estimate of inappropriate antibiotic therapy in the setting of an SSTI, as 40% of children in the current study had cutaneous abscesses, a proportion of whom received antibiotics. Other authors have shown that most adequately drained abscesses do not benefit from antibiotic therapy.1

Why do we care?

Management of the estimated 70,000 children hospitalized annually with SSTIs represents a tremendous antibiotic stewardship opportunity for pediatric hospitalists. The authors of this study have previously demonstrated the ability to improve antibiotic utilization with an inpatient guideline for adult patients.2 Hospitalized children can benefit from similar efforts.

Words from the expert …

“Inpatient skin infections are clearly an important target for antimicrobial stewardship programs working to improve pediatric antibiotic use in hospitals. There is opportunity to promote selection of antibiotics with a narrower spectrum of activity as well as reduce treatment durations... it is essential to address prescriptions written at the time of hospital discharge since the duration of therapy is typically determined at this time.”

—Timothy C. Jenkins, MD

University of Colorado, Division of Infectious Diseases

AUTHORS

Eric Coon, MD,1 Becca Rosenberg, MD, MPH2

1Division of Pediatric Inpatient Medicine, University of Utah School of Medicine, Primary Children’s Hospital, Salt Lake City, Utah; and

2Department of Pediatrics, New York University School of Medicine, New York, New York


FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.
PROLONGED IV ANTIBIOTICS: BECOMING LESS OF A PICC-KLE
The study.
Emergency or inpatient re-encounters within 30 days of discharge were compared between pediatric patients with complicated appendicitis who did (PICC+) and did not (PICC–) receive a peripherally inserted central catheter, after adjusting for confounding with propensity scoring (PS). Retrospective data were obtained from an administrative database of >40 children's hospitals, and the study involved 34,526 children with complicated appendicitis who underwent an appendectomy during their index admission in 2000–2012.

The key findings.
Unsurprisingly, baseline characteristics and complications during the index admission were significantly different between PICC+ and PICC– patients, with PICC+ patients appearing to have more severe disease. However, a PS model of 4428 pairs of PICC+ and matched PICC– children demonstrated no difference in re-encounters. Almost one-third of PS-matched children had a peritoneal abscess during the index admission.

Why do we care?
Complicated appendicitis, including those episodes with abscess, can be added to the growing list of infections not benefiting from prolonged intravenous antibiotic therapy. Many pediatric hospitalists co-manage surgical patients, and complicated appendicitis represents an opportunity to add value by persuading our surgical colleagues to safely do less.

Words from the expert …
"Routine use of PICC lines for prolonged IV therapy in children with appendicitis does not lead to improved post-operative outcomes including intra-abdominal abscess or readmissions. Protocols that include PICC placement and 7-10 days of IV antibiotic therapy should be re-evaluated."
–Peter C. Minneci, MD
Nationwide Children’s Hospital, Division of Pediatric Surgery


YOU CAN TEACH AN OLD SURGEON NEW TRICKS!
The study.
Abscesses drained and treated with a LOOP technique were compared with those treated by using standard incision and drainage. The LOOP technique involves making 2 incisions over a wound, passing a single vessel loop through each, and then tying it off; thus, the wound can continue to drain while the loop is in place. The primary outcome was failure rate, defined as those requiring admission, intravenous antibiotics, or repeat drainage. This retrospective study reviewed 233 cases of drained abscesses in children aged 0 to 17 years treated in a single emergency department over a 1-year period.

The key findings.
Patients treated with the LOOP technique experienced a lower failure rate compared with patients treated with standard incision and drainage (4% vs 17%; P = .03). These findings are limited by a large risk of confounding by indication (groups differed according to age, receipt of sedation, and abscess location) and selection bias (no follow-up for 40% of cases).

Why do we care?
We cannot conclude from this study that the LOOP technique is better than standard incision and drainage. However, these results at least suggest that the LOOP technique has acceptable efficacy in young patients who are often sedated and have buttocks/groin abscesses. Don’t be surprised if you find yourself caring for a small patient with a drained abscess and a funny little loop. But know that it has yet to be proven better than old faithful.


REFERENCES
Should We Make Less Fuss About Pus?
Eric Coon and Becca Rosenberg
Hospital Pediatrics 2015;5:238
DOI: 10.1542/hpeds.2015-0041

Updated Information & Services
including high resolution figures, can be found at:
http://hosppeds.aappublications.org/content/5/4/238

References
This article cites 2 articles, 0 of which you can access for free at:
http://hosppeds.aappublications.org/content/5/4/238#BIBL

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
Infectious Disease
http://hosppeds.aappublications.org/cgi/collection/infectious_disease

Permissions & Licensing
Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
http://hosppeds.aappublications.org/site/misc/Permissions.xhtml

Reprints
Information about ordering reprints can be found online:
http://hosppeds.aappublications.org/site/misc/reprints.xhtml
Should We Make Less Fuss About Pus?
Eric Coon and Becca Rosenberg
Hospital Pediatrics 2015;5:238
DOI: 10.1542/hpeds.2015-0041

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://hosppeds.aappublications.org/content/5/4/238