Systematic Review Snapshot

TAKE-HOME MESSAGE

The routine prescription of antibiotics after incision and drainage of simple abscesses does not appear to improve cure rates at 7 to 10 days, but effect on the rate of abscess recurrence remains unclear.

METHODS

DATA SOURCES

The authors searched MEDLINE, EMBASE, Scopus databases, and the Cochrane Registry of Clinical Trials through December 2012. They performed an additional search with Google Scholar, a list of bibliographies, and trial registries and abstracts of major emergency medicine congresses. The authors did not mention whether the literature search was conducted with language restriction.

STUDY SELECTION

Studies were eligible for inclusion if they enrolled subjects in the emergency department (ED) after incision and drainage of simple abscess who were randomized to receive either an oral antibiotic or placebo; outcome data on clinical cure were also required. A simple abscess was defined as one that presents in an immunocompetent patient without involvement of deeper structures and without the need for hospitalization or operating room drainage. Clinical cure was defined as improvement or resolution of signs and symptoms without concerns for treatment failure. Two independent investigators screened for articles meeting the inclusion criteria.

Do Oral Antibiotics After Incision and Drainage of Simple Abscesses Improve Cure Rates?

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Results

Table. Meta-analysis of oral antibiotics versus placebo after incision and drainage of simple abscess.

Outcome Measure	OR (95% CI)	Number of Studies
Clinical cure of abscess at 7–10 days	1.17 (0.70–1.95)	4
Absence of abscess recurrence at 30–90 days	1.74 (0.88–3.45)	2

The search identified 106 potential studies. Four trials (N=589) met the inclusion criteria and randomized subjects to cephradine, cephalexin, trimethoprim-sulfamethoxazole, or placebo. The risk of bias was judged to be low, with only 34 patients lost to follow-up or having incomplete data. Substantial heterogeneity was not identified and there was no evidence of publication bias, according to the funnel plot. Approximately 27% of the subjects were children. For the primary outcome, 3 studies used clinical cure at 7 days and 1 used clinical cure at 10 days. Systemic antibiotics, when given in addition to incision and drainage, did not significantly improve the percentage of patients with complete resolution of their abscesses 7 to 10 days after treatment (OR=1.2). Although the meta-analysis of the 2 trials assessing for recurrence at 30 and 90 days did not demonstrate evidence of benefit, the point estimate was imprecise and one of these trials reported a 30-day recurrence rate of 9% among patients randomized to trimethoprim-sulfamethoxazole compared with 28% among those who received placebo (approximately a 20% absolute risk reduction).[1]

Commentary

Skin and soft tissue infections account for more than 3 million ED visits annually in the United States, which is

DATA EXTRACTION AND SYNTHESIS

Two authors independently collected data with a predefined data extraction form, and disagreements were resolved jointly. Data were reported as odds ratios (ORs) with 95% confidence intervals (CIs). The quality of the individual studies was assessed with the Cochrane risk-of-bias tool. Heterogeneity was assessed with the I^2 statistic and publication bias was evaluated by visual inspection of a funnel plot.

approximately 3.2% of all ED visits.[2] Twenty-two percent of new skin infection visits were for abscess.[2] In one study, 63% of abscesses were attributed to community-associated methicillin-resistant *Staphylococcus aureus* (MRSA).[3] Incision and drainage of an abscess is considered standard care, but the use of oral antibiotic treatment for simple cutaneous abscess is variable among providers.[2] Antibiotic use has potential consequences, so limiting their use may decrease antibiotic resistance in the community and adverse effects in patients.

This systematic review concluded that there was no improvement of cure rates with the use of oral antibiotics after incision and drainage of simple abscesses. However, it was limited to 4 randomized clinical trials with fewer than 600 total patients.[1,4-6] Of these 4 studies, only 2 included an oral antibiotic that targeted community-associated MRSA, the most common bacterium attributed to cutaneous abscesses.[1,4] These same 2 studies were also the only studies that performed longer-term follow-up, one of which reported that patients who received oral antibiotics developed recurrent abscesses less frequently than those who received placebo at 30 days' follow-up.[1] As a result, a robust clinical trial assessing 30- to 90-day outcomes is necessary to determine whether the prescription of routine oral antibiotics decreases the rate of abscess recurrence.

Editor's Note: This is a clinical synopsis, a regular feature of the *Annals*' Systematic Review Snapshot (SRS) series. The source for this systematic review snapshot is: Singer A, Thode H. Systemic antibiotics after incision and drainage of simple abscesses: a meta-analysis. *Emerg Med J*. http://dx.doi.org/10.1136/emermed-2013-202571.

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Michael Brown, MD, MSc, Alan Jones, MD, and David Newman, MD, serve as editors of the SRS series.