Critical Review Form

Therapy

The treatment of acute superficial abscesses: a prospective clinical trial.
Brit J Surgery 1977; 64: 264-266

Objectives: "To compare the standard method of drainage with primary suture as treatment for acute superficial abscesses and to assess the value of antibiotics as an adjunct to surgery." (p 264)

Methods: Prospective clinical trial at the Casualty Department of the General Infirmary at Leeds from 8/75 – 3/76 of patients presenting with acute superficial abscesses. Patients were randomly assigned to one of four groups:

> Group A: Incision, curettage and primary suture closure with antibiotic Lincomycin one-hour before incision and Clindamycin 150mg every six-hours for four days. Sutures were removed at Day 5.
>
> Group B: Incision, curettage and primary suture without antibiotics.
>
> Group C: Incision, open drainage and packing with antibiotics. Packing was re-evaluated at 2 days.
>
> Group D: Incision, open drainage, packing without antibiotics.

Outcomes included "healing-time" (period of time until discharged from the surgery clinic) and "recurrence rate" (undefined). Methodologically, the authors fail to describe a power analysis, how subjects were randomized or by whom, who performed the abscess procedures or who assessed the outcomes. Also unanswered is whether outcome assessors were blinded to patient group allocation or study hypothesis or whether a Kappa analysis was conducted on these subjective endpoints. Finally, the authors failed to report any baseline demographics to permit readers to compromise each group's pre-intervention likelihood of abscess complications (DM, elderly, immunosuppressed), Of concern, the four groups have unequal numbers (77-44-57-41).

Guide		Comments
I.	**Are the results valid?**	
A.	**Did experimental and control groups begin the study with a similar prognosis (answer the questions posed below)?**	
1.	Were patients randomized?	Yes, but how and by whom?
2.	Was randomization concealed (blinded)?	No. Patients knew which group they were allocated resulting in a possible *compliance bias*.

3.	Were patients analyzed in the groups to which they were randomized?	Probably, but not clearly stated.
4.	Were patients in the treatment and control groups similar with respect to known prognostic factors?	Unknown because no demographic information is reported. What if one group had a higher percentage with immunocompromised subjects (DM) or other comorbidities that might affect wound healing (steroids) then the others?
B.	**Did experimental and control groups retain a similar prognosis after the study started (answer the questions posed below)?**	
1.	Were patients aware of group allocation?	Yes. Would need similar interventions and placebo pills to blind them. Subject knowledge of their treatment arm could result in *compliance bias* or *recall bias*.
2.	Were clinicians aware of group allocation?	Yes. Clinician awareness of treatment arm could lead to therapeutic *personality bias*.
3.	Were outcome assessors aware of group allocation? Observer bias	Yes. Outcome assessor awareness of treatment arm could lead to *ascertainment bias*.
4.	Was follow-up complete?	No loss to follow-up reported so presumably yes.
II.	**What are the results (answer the questions posed below)?**	
1.	How large was the treatment effect?	• Antibiotics lowered abscess recurrence 7.3% to 0% in wounds incised and drained (not significant). • Antibiotics had no effect on abscess recurrence with sutured abscesses, which displayed higher overall recurrence rates: 3 total recurrence in I&D groups (3%) vs. 14 (11.6%) in sutured groups. NNT • The site and size of the abscess did not impact recurrence rate. • Antibiotics had no effect on wound healing-time. • Suture versus open-drainage had no effect on would healing-time.

2.	How precise was the estimate of the treatment effect?	No confidence intervals were reported - uncertain
III.	**How can I apply the results to patient care (answer the questions posed below)?**	
1.	Were the study patients similar to my patient?	Unknown because we lack demographics. Additionally antimicrobial resistance patterns and incidence of abscesses limit applicability in 2006
2.	Were all clinically important outcomes considered?	No. Patient important measures such as discomfort scores, ultimate scar formation, medication side-effects.
3.	Are the likely treatment benefits worth the potential harm and costs?	Yes. If antibiotics can be avoided without impacting recurrence rate, scar formation, or patient discomfort (side effects) costly antibiotics should be avoided to alleviate resistance and unnecessary adverse drug reactions.

Limitations

1. Multiple potential sources of bias.
2. No power analysis to assess possibility of type II error.
3. Dated study with different pathogens (ca-MRSA) and prevalence of cutaneous abscesses in 2006 limiting external validity.

Bottom Line

Methodologically limited, dated trial suggesting antibiotics do not impact wound healing-time but might reduce recurrence rates in abscesses which are incised and drained -- but not sutured. Future appropriately randomized, demographically complete trials would enhance clinician's confidence in withholding antibiotics if these findings were confirmed.