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Clinical Conundrum:

Does the addition of systemic antibiotics improve outcomes in patients with skin abscesses following incision and drainage?

Background:

Skin abscesses are a common presenting complaint in emergency departments. Patients with simple cutaneous abscesses are often treated with incision and drainage and, in some cases, with a prescription for oral outpatient antibiotics after discharge. Current guidelines state that abscesses can be effectively treated with incision and drainage alone, but **in the setting of recurrent or persistent abscesses, MRSA should be presumed and antibiotics are recommended.** Concerns about antibiotic misuse, antibiotic resistance, and the emergence of MRSA bring into question the necessity of oral antibiotics after incision and drainage of cutaneous abscesses.

Findings:

- 1.) In a double-blinded, prospective, RCT of 161 patients, findings **do not support the use of antibiotics as an adjuvant therapy to incision and drainage for skin abscesses.** 5.3% of the placebo group had treatment failure, which was comparable to the 4.1% in the treatment group.
- 2.) In a review of five studies and one abstract – spanning a 30-year period – addressing the issue of clinical outcomes of abscess incision and drainage with or without outpatient oral antibiotics, it was found that patients treated with **incision and drainage alone exhibit resolution of their infection at the same rate as patients who are treated with incision and drainage plus antibiotic therapy.** The data also demonstrate that both groups show a greater than or equal to 90% frequency of full resolution without complications.
- 3.) In a review of four trials, consisting of 589 patients, it was found that when given in addition to incision and drainage, systemic antibiotics **did not significantly improve the percentage of patients with complete resolution of their abscesses 7-10 days after treatment** (88.1% vs 86.0%; OR 1.17 (95% CI 0.70 to 1.95)).

Conclusions:

When given in addition to incision and drainage, systemic antibiotics do not significantly improve the percentage of patients with complete resolution of their abscesses. In the interest of efficient resource utilization and reducing the spread of antibiotic resistance, health care providers should be thoughtful in their provision of systemic antibiotics after abscess I&D, saving them for patients with **recurrent abscesses, the presence of resistant bacteria on wound culture and/or, potentially, immunocompromise.**

- 1.) Ju N.R., Koyfman A. "Do Oral Antibiotics After Incision and Drainage of Simple Abscesses Improve Cure Rates?" *Annals of Emergency Medicine*. January 2015 Volume 65, Issue 1, Pages 112–113. <https://www.clinicalkey.com.foyer.swmed.edu/#!/content/playContent/1-s2.0-S0196064414011317>
- 2.) Everett W, Hankin A. "Are Antibiotics Necessary After Incision and Drainage of a Cutaneous Abscess?" *Annals of Emergency Medicine*. Volume xx, No. x : Month 2007. http://nickyee.com/abscess_source/abscess_antibiotics.pdf
- 3.) Singer AJ¹, Thode HC Jr. "Systemic antibiotics after incision and drainage of simple abscesses: a meta-analysis." *Emerg Med J*. 2013 May 18. <http://www.ncbi.nlm.nih.gov/pubmed/23686731>
- 4.) <http://www.ncbi.nlm.nih.gov/pubmed/25035757>
- 5.) <http://www.ncbi.nlm.nih.gov/pubmed/24868305>