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Reference Article: Talan, David A., William R. Mower, Anusha Krishnadasan, Fredrick M. Abrahamian, Frank Lovecchio, David J. Karras, Mark T. Steele, Richard Rothman, Rebecca Hoagland, and Gregory Moran. "Trimethoprim–Sulfamethoxazole versus Placebo for Uncomplicated Skin Abscess." *The New England Journal of Medicine* 374.9 (2016): 823-32. Print.

PICO Question: Does treatment with Bactrim improve outcomes for the treatment of uncomplicated skin abscesses, compared to no use of antibiotics?

Introduction: Abscesses are a common presenting complaint in the emergency department. Traditional therapy has been to perform an I & D where indicated, and adjunctive antibiotics are usually not given. Prior research seems to support this practice. However, in certain populations where community associated MRSA is prevalent as the most common infective cause, could the use of TMP-SMX (Bactrim) improve outcomes?

Methods: This was a double-blind, randomized trial. Patients with an uncomplicated cutaneous abscess that were treated with I&D were then divided into two groups, either receiving 7 days of single strength TMP-SMX or placebo. Lesions had to be at least 2 cm in diameter, and present for one week. Follow-up visits occurred on days 3-4, 8-10, 14-21, and 49-63. Participants were thought to have a clinical cure if there were no following fevers, increase in size of erythema, swelling, or tenderness from baseline, and subsequent decrease in erythema, swelling, or tenderness.

Results: The abscess cure rate in the TMP-SMX group was 92.9%, and 85.7% in the placebo group, a statistically significant difference. Rates of adverse events were similar between the two groups, with the most common being mild GI upset.

Discussion: In this case, it seems that adjunctive treatment with Bactrim has an added benefit, with no significant increases in adverse events. Since the emergence of community associated MRSA, there have been two placebo controlled trials, but both were too small in size to verify statistical significance. This study increased power by increasing the sample size, which did seem to have increased statistical significance. Bactrim appears to be a reasonable and safe addition to practice guidelines.

Limitations: Patients with co-existing conditions such as diabetes were included, but while enrolling, physicians may be biased against enrolling those deemed "too" high risk. Second, a larger than traditional dose of TMP-SMX was prescribed to ensure adequate and efficacious therapy. Next, there was no way to know how well abscesses were being drained, and user error could have affected cure rates. There was also some degree of non-adherence to therapy, but using the higher dose, as stated above, may have mitigated this.

Bottom Line: Bactrim appears to be a safe and low risk addition to basic treatment guidelines, particularly in areas or in families where community acquired MRSA is more common. The cost reduction in avoiding bounce backs and subsequent procedures makes this even more appealing. We should highly consider adding routine TMP-SMX to treatments when indicated.
