Search Terms

For SR article cellulitis AND admission – limited to systematic review
For clinical study cellulitis AND admission AND failure – scrolled through and found useful article

Critical Appraisal Checklist for a Systematic Review (SR)/Meta-Analysis (MA) or Guideline base on a SR or MA.


1. What issue does the review address and is it a clearly focused?

What is the rate of management failures (staying over 24 hours in an Emergency Department Observation Unit, admission to the hospital or death) of skin and soft tissue infection?

2. How does the population in the study match your patient (i.e. is it focused on patients who have Type 1 Diabetes Mellitus but your patient has Type 2 Diabetes Mellitus)? Is this difference significant?

The population taken from the studies is broad and has many factors associated with risks. Diabetes is not mentioned as a risk factor in any of the cases. Other clinical risk factors such as history of fever and elevated white blood count are mentioned. While my patient had a fever and elevated white count, there was not a prior history of fever and the fever on initial examination was only 100° and a very mildly elevated white blood count. They patient didn’t have MRSA exposure and leg (the location) cellulitis was not an area associated with management failure. So while the study didn’t specifically mention diabetes the fact that it was not noted as a risk factor and that other risk factors didn’t match my patient I would say that it gives me a good idea on how to apply the data to my patient.

3. Does article mention PubMed, EMBASE, and Cochrane (considered the standard databases for searching when completing a SR or MA) were searched to find articles to include in the study. In psychiatry or mental health cases, PsychiatryOnline and PsycINFO should also be searched. The inclusion of other databases beyond those is fine.

The primary databases were listed as being searched and several other databases.

4a. How many articles and/or patients were included in the study that match your patient?

There were 10 studies analyzed and it included a population of 206,000 patients.

4b. Were these specific articles observational, randomized controlled trials, diagnostic studies or other SR or MA?

Six out of the 10 included studies were retrospective cohort studies, with 3 prospective cohort studies and 1 case–control study.

6. Is there any bias (funding or other issues) that would make you question the value of this data?
There are no significant biases in the study.

7. What are the odds ratio or other number used to describe the answer to your question?

Female gender OR 2.34 (1.06 to 5.16)
Initial ED temperature† OR 2.91 (1.65 to 5.12)
Temperature >38°C OR 2.5 (1.1 to 5.5)
WBC count >15000 OR 4.06 (1.53 to 10.74)
WBC count >10000 OR 1.9 (1.2 to 2.5)

8. How would you apply these results to your patient?

There is an increased risk of management failure due to her female gender and WBC count of >10000 but other high-risk factors are not present in my patient. While this isn’t the largest amount of date the fact that diabetes does not appear as a risk factor in any of these studies provides data that it should not be considered in the decision on whether to admit but other issues should be used to evaluate the patient’s possible need for admission.

Critical Appraisal for Clinical Trial


1. What type of trial is this study (Randomized Controlled Trial, Prospective, Blind Comparison to the Gold Standard – Diagnostic Study, Clinical trial without randomization and/or blinding, Retrospective Cohort, Prospective Cohort, Case-Control Study, Cross-Sectional Study? (If not one of these studies check with the librarian to make sure it qualifies by sending an email to Ms. Esparza at jespar@lsuhsc.edu or stopping by the library)

Retrospective chart review

PICO – Population, Intervention, Comparison, Outcomes

2a. Population – What are the inclusion and exclusion criteria for the population/selection of participants?

Inpatients and outpatients treated for skin and soft tissue infections between the ages of 18-89.

2b. Intervention – What intervention, new test, exposure or disease is being evaluated?

Management “failure was defined as an additional prescription or admission to the hospital within 30 days of treatment for a skin and soft tissue infection in the same location as the original infection.”

2c. Comparison/Control/Placebo – If present, what comparison being used as a standard?

n/a

2d. Outcomes – What is the primary outcome(s) of the study or clinical endpoint(s) of the study?

Management “failure was defined as an additional prescription or admission to the hospital within
30 days of treatment for a skin and soft tissue infection in the same location as the original infection."

3. What differences, if any are between your case and the study participants? Do these differences concern you enough that after reading the study it doesn’t apply well to your case?

Most of the study included males (because data was pulled from VA records), the African American population was lower than our 51% here in Shreveport., only about 20% of the participants were of normal weight like my patient. The most important factor was that about 41% of the patients were diabetic.

4. Did they use intention-to-treat analysis or did they explain a modified intention-to-treat plan or modified intention-to-treat protocol? (This is about making sure the analysis plan was stated before the study started and not just running random statistical analysis to see if something good shows up after the study is done. If they left out patients in the analysis why?)

The study provided adequate information on why patients were excluded from analysis. As this was not an intervention or diagnostic study this is less relevant.

5. Was the outcome that applies to your patient (improved quality of life, drop in blood pressure, prevention of heart attack, prevention of premature birth, better surgical outcomes, etc.) objective and clinical or does the study use subjective and surrogate outcomes that may have limited application in clinical care?

The risk of failure was not increased in patients with diabetes. In addition, the other major risk factors for failure were "overweight/obese and heart failure patients." Study participants treated in the outpatient had a higher risk of failure.

6. In reviewing the specific statistical endpoint that applies to your patient, what number (relative risk, absolute risk reduction, odds ratio, hazard ratio, number needed to treat) was used to describe the statistical benefit or lack of benefit in applying the data to your case?

Diabetic 223/541 patients (41.22%) in cohort
42 had failure (45.65%) 181 had success (40.31%) p-Value 0.34 – Not statistically significant.

Temperature (°F) 98.05 ± 1.46 97.81 ± 1.04 98.1 ± 1.53 p-Value 0.09 – Not statistically significant

Lower extremity 360/541 patients (66.54%) in cohort
63 (68.48%) had failure 297 (66.15%) had success – p-Value for all locations Not statistically significant. Lower Extremity not give own p-value but from the numbers there would be no difference.

7. Is there any bias (funding or other issues) that would make you question the value of this data?

There are no significant biases in the study.

8. How would you apply these results to your patient?

This data would support, given the patients access to adequate outpatient care and the drugs needed to treat the infection, treating the patient in the outpatient setting.