Do the study aim/purpose/objectives and inclusion/exclusion criteria assist in answering your clinical question?  
☐ Yes  ☐ No  ☐ Unknown

- Study Aim/Purpose/Objectives:
- Inclusion Criteria:
- Exclusion Criteria:

Is a case-control study congruent with the author's study aim/purpose/objectives above?  
☐ Yes  ☐ No  ☐ Unknown

Comments:

VALIDITY:  ARE THE RESULTS OF THE CASE–CONTROL STUDY VALID OR CREDIBLE?

1. Are the study methods clearly described and appropriate for the question?  
☐ Yes  ☐ No  ☐ Unknown

- Is the setting clearly described and appropriate?

Comments:

2. Were there clearly defined groups of patients, matched on factors or exposures other than the hypothesized association?  
☐ Yes  ☐ No  ☐ Unknown

- Were cases and controls at similar risk of developing the outcome?
- Were all potentially important prognostic factors assessed?
- Are there subgroups in the sample with very different prognoses compared to other subgroups in the study?

Comments:

3. Was the assessment of prognostic factors made independent of knowledge of outcomes?  
☐ Yes  ☐ No  ☐ Unknown

- Were the prognostic factors quantifiable and precisely measurable?
- Were treatments/exposures and clinical outcomes measured in the same way in both groups?

Comments:
4. Were all participants accounted for at the conclusion of the study?  
   - Were missing data explained?  
     Comments:

5. Was there freedom from conflict of interest?  
   - Sponsor/Funding Agency or Investigators  
     Comments:

RELIABILITY:  ARE THESE VALID STUDY RESULTS IMPORTANT?

6. Were the statistical analysis methods appropriate?  
   - Were the statistical analysis methods clearly described?  
   - If subgroups in the sample had different prognostic factors (e.g., demographics, disease specifics, comorbidity), was an adjustment made for the differences between groups?  
     Comments:

7. Did the study have a sufficiently large sample size?  
   - Was a power analysis described?  
   - Did the sample size achieve or exceed that resulting from the power analysis?  
   - Did each subgroup also have sufficient sample size (e.g., at least 6 to 12 participants)?  
     Comments:

8. What are the main results of the study?  (e.g., Helpful data: Page #, Table #, Figures, Graphs)  
   - Is there a strong association between exposure and outcome?  (What is the estimate of risk?)  
   - What were the measures of statistical uncertainty (e.g., precision)?  
     (Were the results presented with Confidence Intervals or Standard Deviations?)

9. Were the results statistically significant?  
   Comments:

10. Were the results clinically significant?  
    - If potential confounders were identified, were they discussed in relationship to the results?  
      Comments:
APPLICABILITY: CAN I APPLY THESE VALID, IMPORTANT STUDY RESULTS TO TREATING MY PATIENTS?

11. Can the results be applied to my population of interest? □ Yes □ No □ Unknown
   - Is the setting of the study applicable to my population of interest?
   - Do the patient outcomes apply to my population or question of interest?
   - Were the patients in this study similar to my population of interest?
   Comments:

12. Are my patient’s and family’s values and preferences satisfied by the knowledge gained from this study (such as outcomes considered)? □ Yes □ No □ Unknown
   Comments:

13. Would you include this study/article in development of a care recommendation? □ Yes □ No □ Unknown
   Comments:

ADDITIONAL COMMENTS OR CONCLUSIONS (“TAKE-HOME POINTS”):

QUALITY LEVEL / EVIDENCE LEVEL

- Consider each “No” answer and the degree to which this limitation is a threat to the validity of the results, then check the appropriate box to assign the level of quality for this study/article.
- Consider an “Unknown” answer to one or more questions as a similar limitation to answering “No,” if the information is not available in the article.

THE EVIDENCE LEVEL IS:
□ Good Quality Case-Control Study [4a]
□ Lesser Quality Case-Control Study [4b]
□ Not Valid, Reliable, or Applicable

Table of Evidence Levels

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Development for this appraisal form is based on: