

iCAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club	FMC
JC Facilitator	Sarah E
JC Discipline	Speech Pathology

Clinical Scenario

What is the incidence and prevalence of upper oesophageal stenosis/stricture in patients with head and neck cancer treated with chemoradiation?

Article/Paper:

Ahleberg A, al-Albany M, Alevronta E , Friesland S, Hellborg H, Mavroidis P, Lind B & Laurell H (2010) Esophageal stricture after radiotherapy in patients with head and neck cancer: experience of a single institution over 2 treatment periods, *Head and Neck* , vol. 32 pp. 452-461.

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the [DOHSA librarian](#).

Article Methodology: Case Control

Journal Club Meeting on: December 2012



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Ques No.	Yes	Can't Tell	No	Comments
1	√			<p>Was the purpose stated clearly?</p> <p>The main aim of the study was to identify the risk factors and long term outcomes of treatment of irradiation induced stricture of esophagus in patients after external beam radiation therapy (EBRT).</p> <p><i>Population:</i> patients diagnosed and treated for esophageal stricture after radiotherapy for head and neck cancer.</p> <p><i>Outcome:</i> identify risk factors and determine the long-term outcome of treatment of irradiation-induced stricture of the esophagus in patients after EBRT.</p>
2	√			<p>Did the authors use an appropriate method to answer their question?</p> <p>The authors used a retrospective case control study design. Case control studies are retrospective studies which assist in studying rare diseases/ conditions while being able to examine multiple factors at one time. Therefore, the study used an appropriate methods to answer the question.</p>
3	√			<p>Were the cases recruited in an acceptable way?</p> <p>Yes, all cases were continuously identified and registered to take part in the study (years 1992 – 2005). The included patients had irradiation induced stricture of the upper oesophagus, were examined between years 1992 – 2005 and had received EBRT between 1987- 2005. The study groups were divided in two due to a change in EBRT treatment in 1999-2000 (ie. Two groups are 1987-1999 and 2000- 2005).</p>
4	√			<p>Were the controls selected in an acceptable way?</p> <p>The control group (patients without any reported swallowing problems) was selected from a group of people who had been sent a questionnaire (sent two years after termination of EBRT). Ten in the control did experience some swallowing problems but showed normal endoscopic examination or had a negative radiological examination- no further matching was done.</p>

5	√		<p>Was the exposure accurately measured to minimise bias?</p> <p>The exposure (radiotherapy) was clearly defined. The EBRT was applied at two different centers' in Stockholm and the dose plans were administered using local guidelines.</p> <p>It cannot be clearly reported whether the measures were validated as the dose plans were collected from previously collected data.</p> <p>No blinding was incorporated in the study due to the study design.</p>
6	√	√	<p>A. What confounding factors have the authors accounted for?</p> <p>The authors mentioned that a main concern was the number of the confounding factors that could not have been avoided in a case-control study of this rare condition. However, there was little written on which were considered.</p> <p>B. Have the authors taken account of the potential confounding factors in the design and/or in their analysis?</p> <p>No, as the confounding factors could not be avoided in this case control study presented with the rare condition (head and neck cancer)</p>
7	√		<p>What are the results of this study?</p> <p><i>Bottom line results:</i></p> <p>The incidence of oesophageal stricture after EBRT alone or with EBRT combined with surgery for treatment of head and neck was found to be 3.3%.</p> <p>The risk factors associated with development of the stricture included:</p> <ul style="list-style-type: none"> • Use of the NG tube / PEG during or soon after EBRT • Using dose of >45 GY to a large volume of the upper part of the esophagus.

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8	√		<p>How precise are the results?</p> <p>The odds ratio (OR) has been given for all risk parameters in table 2 (pg 456). The confidence intervals given for each OR can be used to determine how precise the results are.</p> <p><i>Notes on OR ^ ; notes on confidence intervals*</i></p> <p>^The OR evaluates whether the odds of a certain event or outcome is the same for two groups. Specifically, the OR measures the ratio of the odds that an event or result will occur to the odds of the event not happening. An odds ratio of 1 equals no association between exposure to event and outcome.</p> <p>*Confidence intervals (CI) describe the uncertainty inherent in the observed effect (e.g. risk of falling), and describe a range of values within which one can be reasonably confident that the true effect actually lies. If the CI is relatively narrow, the effect size is known precisely. If the interval is wider the uncertainty is greater, although there may still be enough precision to make decisions about the utility of the intervention. Intervals that are very wide indicate that we have little knowledge about the effect, and that further information is needed.</p> <p>The width of the CI for an individual study depends to a large extent on the sample size. Larger studies tend to give more precise estimates of effects (and hence have narrower CI) than smaller studies. For continuous outcomes (e.g. scores on functional scales), precision depends also on the variability of measurements across individuals; <u>for dichotomous outcomes (e.g. fallers versus non fallers) it depends on the risk of the event.</u></p>
9			<p>Do you believe the results?</p> <p>Journal club to answer</p>