

Title	Treatments for Locally Advanced Oropharyngeal Cancer: A Systematic Review of Clinical Effectiveness and Cost-Effectiveness
Agency	CADTH
Reference	Treatments for locally advanced oropharyngeal cancer: a systematic review of clinical effectiveness and cost-effectiveness. Ottawa: CADTH; 2017 Aug. (CADTH rapid response report: systematic review).

Aim

This systematic review aimed to compare the clinical effectiveness of primary surgical therapy with or without adjuvant radiation and chemotherapy versus primary chemoradiotherapy (CRT) with or without salvage surgery for adults with locally advanced oropharyngeal cancer to help guide treatment decisions for these patients. The cost-effectiveness of the two treatment strategies was also examined.

Conclusions and results

The literature search identified 772 articles, 53 of which were deemed potentially relevant. Of these studies, 15 met the criteria for inclusion in this review — 14 clinical studies and one economic evaluation.

For adult patients with locally advanced oropharyngeal cancer, it is unclear if treatment with primary surgery results in better oncologic outcomes after five years compared with treatment with primary CRT.

The type of surgery, whether open surgery or a minimally invasive approach (i.e., transoral robotic surgery [TRS] or transoral laser microsurgery [TORS]), does not appear to affect oncologic outcomes compared with CRT.

Patients undergoing primary CRT appear to be more likely to experience hematological toxicities (blood disorders) and pharyngitis (swelling at the back of the throat); but, after more than four years of follow-up, the most common complications — such as acute dermatitis, oral mucositis (inflammation of the mouth), chronic swallowing difficulty, dry mouth, and trismus (lockjaw) — appear to be similar between the two treatment strategies.

In general, patients treated with CRT appear to experience better quality-of-life outcomes than those treated with surgery, but TLM or TORS may lead to better swallowing outcomes after one year.

An economic analysis conducted in the US suggests that, compared with TORS, primary concurrent CRT plus platinum-based therapy might be a cost-effective treatment for T1 to T2, N2a to N2b, p16-positive oropharyngeal cancer; however, the generalizability of this finding to the Canadian setting is unclear.

Recommendations

None

Methods

This review was based on a protocol developed a priori. Published and unpublished literature describing studies that actively compared both treatment strategies and cost studies were identified through systematic searches of multiple databases and resources. The outcomes investigated were oncologic and functional outcomes, toxicities and complications of treatments, quality of life, and cost-effectiveness.

Two reviewers independently screened the titles and abstracts of all citations retrieved from the literature search and ordered the full text of articles based on the selection criteria. The reviewers independently reviewed the full text of the selected articles and compared the independently chosen included and excluded studies. Data were extracted independently by reviewers and any disagreements were resolved through discussion until consensus was reached. The quality of clinical studies and cost evaluations was assessed using the Downs and Black checklist and the Drummond checklist, respectively. Because of heterogeneity in both study and patient characteristics, meta-analyses were not performed. A narrative summary of the included study findings was constructed, instead.

Further research/reviews required

The outcomes analyzed are reflective of the relatively short-term follow-up times that have been reported to date. Larger clinical studies, with long-term follow-up, are needed, as are studies that stratify patients by human papilloma virus (HPV) status, since HPV-positive oropharyngeal cancers may respond differently to different management approaches.

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