
4.7. A cost-utility analysis of ablative therapy for Barrett's esophagus

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Background & Aims: Recommendations for patients with Barrett's esophagus (BE) include endoscopic surveillance with esophagectomy for early-stage cancer, although new technologies to ablate dysplasia and metaplasia are available. This study compares the cost-utility of ablation with that of endoscopic surveillance strategies.

Methods: A decision analysis model was created to examine a population of patients with BE (mean age 50), with separate analyses for patients with no dysplasia, low-grade dysplasia (LGD), or high-grade dysplasia (HGD). Strategies compared were: no endoscopic surveillance; endoscopic surveillance with ablation for incident dysplasia; immediate ablation followed by endoscopic surveillance in all patients or limited to patients in whom metaplasia persisted, and esophagectomy. Ablation modalities modeled included radiofrequency, argon plasma coagulation, multipolar electrocoagulation and photodynamic therapy.

Results: Endoscopic ablation for patients with HGD could increase life expectancy by 3 quality adjusted years at an incremental cost of < \$6,000, compared with no intervention. Patients with LGD or no dysplasia can also be optimally managed with ablation, but continued surveillance after eradication of metaplasia is expensive. If ablation permanently eradicates at least 28% of LGD or 40% of non-dysplastic metaplasias, ablation would be preferred to surveillance.

Conclusions: Endoscopic ablation could be the preferred strategy for managing patients with BE with HGD. Ablation might also be preferred in subjects with LGD or no dysplasia, but the cost-effectiveness depends on the long-term effectiveness of ablation and whether surveillance endoscopy can be discontinued following successful ablation. As further post-ablation data become available, the optimal management strategy will be clarified.