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COMPARISON OF COSTS OF PHOTODYNAMIC THERAPY AND RADIOFREQUENCY ABLATION FOR MANAGEMENT OF DYSPLASIA IN BARRETT'S OESOPHAGUS: THE AINTREE EXPERIENCE

doi:10.1136/gut.2011.239301.66

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Introduction Recent NICE guidelines suggest offering endoscopic ablative therapy to patients with high-grade dysplasia and intra-mucosal oesophageal carcinoma as an alternative to surgery. Both Photodynamic therapy (PDT) and Radiofrequency ablation (RFA) are recommended by NICE taking into account their long-term efficacy, cost and complication rates. There are no direct comparative studies of RFA versus PDT but NICE suggested PDT had increased side-effects and was less cost-effective. As a single institution that has undertaken both forms of ablative treatment, we aimed to compare the difference in cost for PDT and HALO within a single site.

Methods University Hospital Aintree is a upper GI cancer referral centre with experience in ablative therapy. Patients that had undergone PDT (2005–2008) and HALO RFA (2008–2009) for flat HGD and intramucosal cancer were included. Drug, admission and endoscopy consumable costs were calculated.

Results PDT patients were treated with photofrin photosensitiser 48 h pre-procedure followed by activation using a laser fibre via a balloon-centering device as an inpatient. Pharmaceutical company provides laser loan facility so no capital costs incurred. Patients were allowed home once symptoms stable. All endoscopic procedures were carried out under conscious sedation. Following PDT all patients underwent surveillance examination and APC was applied to residual Barrett's in all but one case. No dilatations were needed post therapy.

RFA patients had ablation on a 3 monthly basis using HALO 90 and 360 consumables as per UK RFA HALO registry protocol until eradication of Barrett's. No capital costs for equipment

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	Number (sex)	Age	Drug Costs Mean (range)	Ablation endo costs Mean (Range)	Post Ablation endo therapy£	LOS (days)	Total COST (range, mean)
PDT	10 (8 M, 2 F)	62–81	1650 (1300–1950)	500 (500)	0–2800	4–8	4370 (2350–6000)
RFA	11 (9 M, 2 F)	63–83	_	2900(11506200)	0–500	0–1	2900 (1150–6200)

which was loaned from company. Two patients were admitted following RFA due to lack of escort and chest pain. Number of ablations undertaken ranged from 1 to 4 (mean 2). Two patients had EMR post ablation of focal lesions.
Following ablation all patients entered a standard surveillance follow-up.
Conclusion Our costing calculations show RFA to be cheaper than PDT on average when calculated across a similar number of patients at a single institution. This is in keeping with the NICE cost effectiveness analysis. Significant individual variation for both procedures relates to hospital admission, consumables, drug costs and need for further endoscopic therapy. Side effect profile and long-term outcomes will also need to be taken into account in choice of ablative therapy.
Competing interests None.
Keywords high grade dysplasia (HGD), photodynamic therapy (PDT), radiofrequency ablation (RFA).

REFERENCE

1. NICE guidance 106 Ablative therapy for the treatment of Barrett's oesophagus