OWE-003 COLD SNARE POLYPECTOMY IS SAFE YET UNDER-UTILISED: AN ANALYSIS OF 281,194 UK TRAINEE POLYPECTOMIES

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Introduction Multiple techniques exist for the management of colorectal polyps. Recent ESGE guidelines¹ have defined an evidence based guide to the optimal technique for removing different sizes of polyps. Previously this decision often depended on an individual operator's experience and training. We sought to examine current polypectomy practice amongst United Kingdom endoscopy trainees with to these guidelines.

Methods The ESGE polypectomy guideline¹ suggests polyps <10 mm should be removed using cold snare polypectomy (CSP) or cold biopsy forceps (CBF) [≤3 mm only], 10–19 mm using endoscopic mucosal resection (EMR) or hot snare polypectomy (HSP) and ≥20 mm using EMR. The JETS database is a prospectively collected record of trainee colonoscopic procedures in the United Kingdom and its use during training is mandatory for accreditation. Data is entered by trainees on their own endoscopic procedures. Adverse events were classified as delayed bleeding or delayed perforation. We retrospectively analysed procedures entered into the JETS database from Jan 2008 to December 2017 for polypectomy technique and compared this to the 2017 ESGE guideline.

Results 2 91 778 polypectomies were performed in 1 76 569 trainee-performed procedures by 3395 trainees over the study period. 10 584 polypectomies were missing data. 2 81 194 polypectomies were analysed.

Of 2 50 783 polyps <10 mm in size removed, 29.5% were performed using CBF, 27.9% by CSP, 25.1% by HSP, 9.5% by HBF, and 8.0% by EMR. Of 26 605 polyps 10–19 mm in size, 55.3% were removed by HSP, 31.0% by EMR and 3.5% by CSP. 8.4% of lesions were biopsied and not removed. Of 3806 polyps ≥20 mm in size, 39.4% were removed by EMR, 36.3% by HSP, 1.1% were removed by CSP and 21.9% of these lesions were biopsied and not removed. Overall, adherence to the ESGE guidance was observed in 1 54 948 polypectomies (55.1%). Nurse endoscopists were more adherent (61.7%), versus physicians (57.9%) versus surgeons (44.3%), $p < 0.001$.

Of 219 (0.1%) adverse events reported amongst all polypectomies, 50.8% were amongst HSP, 19.2% EMR, 16.9% CSP and 12.7% after HBF $p < 0.001$. Of 20 delayed perforations (event rate 0.01%), 55% were due to EMR, 30% to HSP and 15% to HBF. No perforations resulted from CSP.

Conclusions Cold snare polypectomy is under-utilised for diminutive polypectomy, despite its proven safety and efficacy; its use amongst trainees should be promoted in line with ESGE guidance. Trainees are likely to follow the example of their trainers and, as such, this study likely provides an insight into current polypectomy practice in the wider UK endoscopic community. Trainees in the United Kingdom predominantly remove diminutive polyps with extremely low rates of adverse events.

REFERENCE

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OWE-004 ISCAN OE IMPROVES DETECTION OF EARLY BARRETTS OESOPHAGUS ASSOCIATED NEOPLASIA IN TRAINEE AND EXPERT ENDOSCOPISTS

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Introduction The Seattle protocol for BE surveillance samples a small proportion of the mucosal surface area – risking a high miss rate of early neoplastic lesions. We assessed if the new iScan Optical Enhancement system (OE, Pentax) improves the detection of early BE associated neoplasia compared to high definition white light endoscopy (HD-WLE) in both expert and trainee endoscopists. Such a system may both improve early neoplasia detection and reduce the need for random biopsies.

Methods Patients undergoing endoscopic BE surveillance from Jan 2016–Nov 2017 were recruited from 3 international referral centres. Matched still images in both HD-WLE and iScan OE were obtained from HD videos of endoscopic examinations. Two experts, unblinded to the videos and histology, delineated known neoplasia – forming a consensus ‘gold standard’. 7 expert and 7 trainee endoscopists marked one position per image where they would expect a target biopsy to identify dysplastic tissue. Sensitivity, specificity and accuracy were calculated. Improvements in dysplasia detection in HD-WLE vs OE and interobserver agreement (IA) were assessed using McNemars test and Krippendorff's alpha respectively.

Results Accuracy of neoplasia detection improved in all trainees using OE vs WLE (pooled 76% vs 63%) and in 6 experts (pooled 86% vs 78%). OE improved detection sensitivity compared to WLE in 6 trainees (pooled: 81% [62–94%] vs 71% [50–86%]) and 5 experts (pooled: 79.4% [62–92.5%] vs 65% [52–82%]). Specificity improved in 6 trainees using OE vs WLE (pooled: 71% [50–84%] vs 55% [40–91%]) and in 5 experts (pooled: 92% [78.5–100%] vs 90.3% [55.9–99%]) Trainees and experts made significantly more correct diagnoses using OE (pooled: 689 vs 570, $p \leq 0.001$, pooled: 789 vs 699 $p \leq 0.001$ respectively). IA in both groups improved using OE and was fair and moderate for each group respectively (trainees OE vs WLE: 0.39 vs 0.23, experts OE vs WLE: 0.46 vs 0.39).

Conclusion iScan OE improves the diagnostic accuracy of expert and trainee endoscopists performing BE surveillance. OE significantly improves sensitivity and specificity of neoplasia detection. It does not meet the Preservation and Incorporation of Valuable Endoscopic Innovations guidelines (PIVI) but shows promise for use in the training environment or in a secondary care setting where caseloads of early BE neoplasia may be lower.