Endoscopic resection of large sessile colonic polyps by specialist and non-specialist endoscopists


Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
The diagnosis and resection of large sessile colonic polyps by specialists or non-specialists performing endoscopy, was examined.

Type of intervention
Diagnosis and treatment.

Economic study type
Cost-effectiveness analysis.

Study population
The study population comprised patients with large (greater than 2 cm) sessile polyps that were diagnosed during colonoscopy. Patients with polyps located in the distal 5 cm of the rectum, and those with sessile lesions associated with ulcerative colitis (dysplasia-associated lesion or mass), were excluded.

Setting
The setting was a hospital. The economic study was conducted at the Wolfson Unit for Endoscopy at the St. Mark's Hospital in London, UK.

Dates to which data relate
The effectiveness and resource use data were gathered during 1995 to 2000. No price year was reported.

Source of effectiveness data
The effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was performed retrospectively on a sub-sample of patients used in the effectiveness study.

Study sample
Power calculations to determine the sample size were not reported. All eligible patients diagnosed during colonoscopy at the study hospital from January 1995 to July 2000 were identified through the computerised endoscopy database. A sample of 130 sessile polyps in 129 patients was considered in the analysis. Specialists treated 99 patients while non-specialists treated 30 patients. In the specialist group, the mean age of the patients was 66 years (range: 25 - 84) and 56 were men. In the non-specialist group, the mean age was 72 years (range: 28 - 85) and 11 patients were men.
Study design
This was a retrospective case-control study that was conducted in a single centre. The length of follow-up was not reported, but 8 patients in the specialist group and 3 in the non-specialist group were lost to follow-up.

Analysis of effectiveness
The clinical study was analysed on the basis of treatment completers only. The primary health outcomes estimated in the analysis were the initial resection methods used for benign polyps, and several clinical outcomes. The clinical outcomes included complete endoscopic success (no polyp recurrence detectable at follow-up), the number of patients continuing endoscopic treatment, the number of patients whose endoscopic treatment failed, recurrence-free follow-up time, and complications. In terms of the comparability of the study groups, the authors showed that the polyps in the non-specialist group were larger than those in the specialist group. However, there were no statistically significant differences in the other polyp characteristics.

Effectiveness results
In terms of the initial resection methods used for benign polyps, the specialists attempted endoscopic resection more often (80 of the 86 cases) than non-specialists (15 out of 20), (p=0.03). Similarly, specialists used saline-assisted polypectomy techniques more often (38 of the 80 cases) than non-specialists (2 out of 15), (p=0.02).

Complete endoscopic success was achieved in 61 patients in the specialist group and in 6 patients in the non-specialist group, (p=0.01).

Six patients continued endoscopic treatment in the specialist group versus one in the non-specialist group.

The number of patients whose endoscopic treatment failed was 5 in each group.

In the overall group of patients, the median recurrence-free follow-up time was 11.7 months (range: 2.1 - 64.2).

Complications occurred after three polypectomies in the specialist group and in one patient in the non-specialist group.

Clinical conclusions
The analysis of effectiveness showed that large sessile polyps could be removed endoscopically, but that the clinical outcomes improved when specialists rather than non-specialists treated the patients.

Measure of benefits used in the economic analysis
The health outcomes were left disaggregated and no summary benefit measure was used in the analysis. A cost-consequences analysis was therefore conducted.

Direct costs
Discounting was not performed. It was unclear whether it was relevant, as the length of follow-up was not reported. The unit costs and the quantities of resources were reported separately. The health services included in the analysis were polypectomy, surgery for benign polyps (including operation and inpatient stay), and colonoscopy. The cost/resource boundary adopted in the study was that of the hospital. The quantities of resources were estimated from a sub-sample of patients included in the effectiveness analysis during 1995 to 2000. The cost data were obtained from the study hospital. No price year was reported.

Statistical analysis of costs
The costs were treated deterministically.
Indirect Costs
The indirect costs were not included.

Currency
UK pounds sterling (GBP).

Sensitivity analysis
No sensitivity analyses were conducted.

Estimated benefits used in the economic analysis
See the 'Effectiveness Results' section.

Cost results
The mean cost per patient was 1,500 in the specialist group and 4,020 in the non-specialist group.

Synthesis of costs and benefits
Not relevant as a cost-consequences analysis was conducted.

Authors' conclusions
Expertise played an important role in the endoscopic resection of large sessile colonic polyps. The treatment of such patients by specialists was cheaper in comparison with the non-specialist intervention, mainly because fewer patients were referred for operation.

CRD COMMENTARY - Selection of comparators
The rationale for the choice of the comparators was clear. Specialist and non-specialist management were selected, as both represented actual diagnostic and treatment options at the study hospital. You should decide whether both specialists and non-specialists perform endoscopic assessment and resection in patients with sessile polyps in your own setting.

Validity of estimate of measure of effectiveness
The analysis of effectiveness used a retrospective case-control study. Statistical analyses were conducted to show the baseline comparability of the study groups, which were not perfectly matched. The study sample was representative of the study population. Some potential limitations of the effectiveness analysis were the lack of randomisation in patient allocation to study groups, the retrospective design, and the fact that the length of follow-up was not reported. The authors commented that the referral procedures in the study sample included in the analysis might be a source of bias.

Validity of estimate of measure of benefit
No summary benefit measure was used in the economic analysis. The analysis was therefore categorised as a cost-consequences study.

Validity of estimate of costs
The costs were analysed from the perspective of the hospital. It appears that all the relevant categories of costs have been included in the economic analysis. The unit costs were reported separately from the quantities of resources, and the source of the cost data was reported. However, the costs were treated deterministically and the resource use was derived from a sub-sample of patients for some cost items. No sensitivity analyses were conducted. The cost estimates...
were fairly specific to the study setting.

Other issues
The authors made some comparisons of their findings with those from other studies. However, they did not address the issue of the generalisability of the study results to other settings, as no sensitivity analyses were conducted. The study included patients with large sessile polyps diagnosed during colonoscopy and this was reflected in the conclusions of the analysis.

Implications of the study
The management of patients with large sessile polyps by a specialist proved to be superior to care provided by non-specialists. Thus, the authors suggested that the opinion of a specialist colonoscopist should be sought before planning operations in patients with polyps considered irresectable. However, the authors noted that more powerful diagnostic tools, such as endoscopic ultrasonography, might be of some importance in the diagnostic process, as even specialists may fail to recognise cancers correctly.

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