Enteroscopy for the initial evaluation of iron deficiency
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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
Colonoscopy and esophagastroduodenoscopy (EGD) with examination of the proximal jejunum in patients with iron-deficiency anaemia.

Type of intervention
Diagnosis.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with iron-deficiency anaemia with no gastrointestinal symptoms.

Setting
Hospital. The economic study was carried out in the USA

Dates to which data relate
The effectiveness data were collected between February 1993 and August 1996. The price year was 1996.

Source of effectiveness data
The evidence for the final outcomes was derived from a single study.

Link between effectiveness and cost data
The costing was performed retrospectively on the same patient sample as that used in the effectiveness study.

Study sample
Power calculations were not used to determine sample size. The study sample consisted of 31 consecutive patients.

Study design
The study was a prospective case series study, carried out in a single centre.

Analysis of effectiveness
All patients were included in the final analysis. The health outcome measures were the identification of bleeding sources and diagnosis yield.
Effectiveness results
Performing EGD could identify the bleeding sources of 35% of patients. The bleeding source of 8% of patients was in the jejunum. The bleeding sources of 6% of patients was both upper tract and jejunum. The diagnosis yield was increased from 41% to 86% as a result of performing push enteroscopy in combination with EGD.

Clinical conclusions
Performing push enteroscopy in combination with EGD was an effective tool in the identification of the bleeding sources in patients with iron-deficiency anaemia with no gastrointestinal symptoms.

Measure of benefits used in the economic analysis
The diagnosis yield was the only measure of benefit.

Direct costs
Quantities and costs were not reported separately. It was not clear which costs were included in the analysis. The perspective adopted in the cost analysis was not explicitly specified. The source of cost data was Medicare reimbursement figures (technical and professional charges). The date of the price data was 1996. The cost of biopsies was omitted since it was regarded as common to both strategies.

Indirect Costs
Not considered.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was performed.

Estimated benefits used in the economic analysis
The diagnosis yield was increased from 41% to 86% as a result of performing push enteroscopy in combination with EGD.

Cost results
The comparator (EGD for all patients as the initial test followed by enteroscopy for 18 patients with no detectable lesions) cost $656 per patient, whereas the intervention (push enteroscopy in combination with EGD as the initial test for all patients) cost $467 per patient.

Synthesis of costs and benefits
No synthesis was performed since the intervention was regarded as the dominant strategy.

Authors' conclusions
Performance of push enteroscopy along with esophagogastroduodenoscopy increases the diagnostic yield from 41% to 67% when evaluating the upper gastrointestinal tract of asymptomatic patients with iron-deficiency anaemia and, because of a lower cost, should be the preferred initial diagnostic test.
CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator is clear as it was the most common approach according to the authors. You should consider whether this is a widely used health technology in your own setting.

Validity of estimate of measure of benefit
The internal validity of estimates of the effectiveness results is likely to have been weakened by the sample size which may have been too small for the hypothesis under investigation (there were no power calculations).

Validity of estimate of costs
Resource utilisation and costs were not reported separately. Adequate details of methods of cost estimation were not given.

Other issues
In view of the lack of sensitivity analysis, and statistical analysis, the results need to be treated with some caution. The issue of generalisability to other settings or countries was not addressed.

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