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Title **Self-Expanding Metallic Stents for Relieving Malignant Colorectal Obstruction: A Systematic Review**

Agency **ASERNIP-S, Australian Safety and Efficacy Register of New Interventional Procedures – Surgical**

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Aim

To make recommendations on the safety and efficacy of self-expanding metallic stents (SEMS) for relieving malignant colorectal obstructions.

Conclusions and results

SEMS were compared to surgical procedures to relieve colorectal obstruction, and were also assessed in isolation. The review included 15 comparative studies and 73 case series. Nine studies compared SEMS vs surgery (2 were randomized controlled trials, RCTs), 3 compared elective surgery after decompression with SEMS vs emergency surgery, and 2 compared covered vs uncovered stents.

The quality and quantity of evidence limited the review. Many studies lacked methodological rigor, which made assessing the validity of the data difficult. Despite a poor-quality evidence base, the data suggested that SEMS was safe and effective in overcoming left-sided malignant colorectal obstructions, regardless of the indication for stent placement or underlying disease.

SEMS had positive outcomes compared to surgery, including overall shorter hospital stays and a lower rate of serious adverse events. Postoperative mortality appeared comparable between the two. Combining SEMS with elective surgery appeared safer and more effective than emergency surgery. However, the small sample sizes limited the validity of the findings.

Recommendations

The ASERNIP-S Review Group agreed on the following classifications and recommendations:

Evidence rating: Poor.

Safety: The safety of SEMS placement compared to surgery cannot be determined. However, considered in isolation, the evidence suggests that SEMS is safe in relieving left-sided colorectal obstructions.

Efficacy: The efficacy of SEMS placement compared to surgery cannot be determined. However, considered in isolation, the evidence suggests that SEMS is effective in relieving left-sided colorectal obstructions, with high levels of technical and clinical success.

Methods

Search strategy: Studies were identified by searching MEDLINE, EMBASE, CINAHL, Current Contents, Science Citation Index, PubMed and the NHS Centre for Reviews and Dissemination Database in April 2005. Other databases were searched in April 2005 and February 2006.

Study selection: RCTs, historical and/or nonrandomized comparative studies, case series, and case reports on complications were included. Comparative studies concerned surgical intervention or any internal comparison of different types of stent. Efficacy outcomes included technical and clinical success, duration of patency, progression to surgery, and rates of re-intervention, anastomosis, and colostomy. Safety outcomes included complications, eg, perforation.

Data collection and analysis: Data were extracted by one researcher using standardized data extraction tables developed *a priori* and checked by a second researcher. Statistical pooling was inappropriate for this data set, but narrative pooling was used where appropriate. Data were stratified where possible by intent of stent placement and patient population.

Further research/reviews required

A multicenter RCT of stent placement as a bridge-to-surgery is feasible and desirable. However, the difficulties inherent in randomizing patients seeking palliative treatment may preclude the possibility of conducting an RCT of palliative stent placement.

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