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# [Intervention Review]

# Stent placement versus surgical palliation for adults with malignant gastric outlet obstruction

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#### **ABSTRACT**

# **Background**

Malignant gastric outlet obstruction is the clinical and pathological consequence of cancerous disease causing a mechanical obstruction to gastric emptying. It usually occurs when malignancy is at an advanced stage; therefore, people have a limited life expectancy. It is of paramount importance to restore oral intake to improve quality of life for the person in a manner that has a minimal risk of complications and a short recovery period.

# **Objectives**

To assess the benefits and harms of endoscopic stent placement versus surgical palliation for people with symptomatic malignant gastric outlet obstruction.

## **Search methods**

In May 2018 we searched the Cochrane Central Register of Controlled Trials, Ovid MEDLINE, Ovid Embase and Ovid CINAHL. We screened reference lists from included studies and review articles.

## **Selection criteria**

We included randomised controlled trials comparing stent placement with surgical palliation for people with gastric outlet obstruction secondary to malignant disease.

# Data collection and analysis

Two review authors independently extracted study data. We calculated the risk ratio (RR) with 95% confidence intervals (CI) for binary outcomes, mean difference (MD) or standardised mean difference (SMD) with 95% CI for continuous outcomes and the hazard ratio (HR) for time-to-event outcomes. We performed meta-analyses where meaningful. We assessed the quality of evidence using GRADE criteria.

# **Main results**

We identified three randomised controlled trials with 84 participants. Forty-one participants underwent surgical palliation and 43 participants underwent duodenal stent placement. There may have been little or no difference in the technical success of the procedure (RR 0.98, 95% CI 0.88 to 1.09; low-quality evidence), or whether the time to resumption of oral intake was quicker for participants who had undergone duodenal stent placement (MD -3.07 days, 95% CI -4.76 to -1.39; low-quality evidence).

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Due to very low-quality evidence, we were uncertain whether surgical palliation improved all-cause mortality and median survival postintervention.

The time to recurrence of obstructive symptoms may have increased slightly following duodenal stenting (RR 5.08, 95% CI 0.96 to 26.74; moderate-quality evidence).

Due to very low-quality evidence, we were uncertain whether surgical palliation improved serious and minor adverse events. The heterogeneity for adverse events was moderately high (serious adverse events: Chi² = 1.71; minor adverse events: Chi² = 3.08), reflecting the differences in definitions used and therefore, may have impacted the outcomes. The need for reintervention may have increased following duodenal stenting (RR 4.71, 95% CI 1.36 to 16.30; very low-quality evidence).

The length of hospital stay may have been shorter (by approximately 4 to 10 days) following stenting (MD -6.70 days, 95% CI -9.41 to -3.98; moderate-quality evidence).

#### **Authors' conclusions**

The use of duodenal stent placement in malignant gastric outlet obstruction has the benefits of a quicker resumption of oral intake and a reduced inpatient hospital stay; however, this is balanced by an increase in the recurrence of symptoms and the need for further intervention.

It is impossible to draw further conclusions on these and the other measured outcomes, primarily due to the low number of eligible studies and small number of participants which resulted in low-quality evidence. It was not possible to analyse the impact on quality of life each intervention had for these participants.

### PLAIN LANGUAGE SUMMARY

# Stent placement versus surgery to control symptoms of a blocked stomach outlet caused by inoperable cancer

### **Review question**

Is surgery or an endoscopic stent better for the treatment of blockage of the stomach (gastric) outlet that is caused by cancer?

## **Background**

Cancers of the upper gastrointestinal tract (stomach, small bowel, pancreas) can block the outlet of the stomach leading to vomiting, abdominal pain and the inability to eat or drink. For people whose survival is already limited by their cancer, these symptoms are distressing and will ultimately shorten their life expectancy. Restoring the ability to eat and drink is of supreme importance to improve their quality of life.

Two interventions are available to overcome this blockage. A surgical procedure to join the stomach to the upper small bowel (gastrojejunostomy), thereby, diverting food around the blockage can be performed. This can be done via an incision in the abdomen (open) or via small keyhole incisions (laparoscopic). The alternative is the placement of a plastic or metal tube (stent) across the narrowed or blocked area which is placed through the mouth and oesophagus (food pipe) (endoscopic).

# **Study characteristics**

Three studies with 84 participants compared a surgical operation to bypass the blockage with the placement of a duodenal stent to bridge the blockage. The evidence is current to May 2018.

# **Key results**

All studies found that people were able to eat and drink sooner following the placement of a duodenal stent and were subsequently discharged from hospital quicker. The return of symptoms was more likely after a stent and people required further treatment to again restore the ability to eat and drink.

There was a higher number of immediate problems in the participants undergoing gastrojejunostomy, including wound and chest infections. In some of the participants who had a stent, subsequent blockage of the stent occurred that required a repeat procedure.

# Quality of the evidence

The studies included only a small number of participants and all studies were used slightly different methods, making it difficult to be certain of the key results.