Background

- Incidence of pancreatic cancer is 6.2 per 100,000.
- At diagnosis, 90% of patients have metastatic disease and up to 90% of patients present with obstructive jaundice. 1, 2
- AGS guidelines recommend endoscopic stent placement, specifically: Plastic stents for patients with estimated life expectancy of < 6 months, Metal stents for patients with estimated life expectancy of > 6 months. 3
- Recent evidence from phase III trials demonstrates prolonged survival with Metal stents in patients treated with FOLFIRINOX and gemcitabine compared with current standards of care.

Methods

- Model type: Markov cohort
- Timeframe: Lifetime
- Metal stents for patients with estimated life expectancy of > 6 months.
- Cycle length: 1 month
- During each model cycle, patients were at risk of: Complications (gastrointestinal bleeding, pancreatitis, cholecystitis, and cholangitis), Stent migration or stent occlusion (with subsequent stent placement), Progression to metastatic cancer, Death

Objective

This analysis evaluated the cost effectiveness of initial metal vs. plastic stent placement in patients with locally-advanced pancreatic adenocarcinoma with bilirary obstruction.

Results

- Patients underwent endoscopic retrograde cholangiopancreatography (ERCP) with metal or plastic stent placement.
- In 2012 data, were reported as:
  - Metal stents: GI bleeding, Pancreatitis, Cholecystitis, and Cholangitis
  - Plastic stents: GI bleeding, Pancreatitis, Cholecystitis, and Cholangitis
- There are many parameter estimates are not well-defined, and there is uncertainty around many of the parameter estimates. Future studies will further evaluate the impact of this variation on cost and QALYs.
- Plastic stents were placed in 21.4% of patients, followed by metal stents in 20.2%. GI bleeding was reported in 5.4% of plastic stent patients and 1.9% of metal stent patients.
- The complication rate reported was 11.96% for metal stents and 8.2% for plastic stents.
- Plastic stent patients were 28.0% lower cost than metal stent patients.

Conclusions

- Plastic stents were placed in 21.4% of patients, followed by metal stents in 20.2%. GI bleeding was reported in 5.4% of plastic stent patients and 1.9% of metal stent patients.
- The complication rate reported was 11.96% for metal stents and 8.2% for plastic stents.
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References


Table 1. Table of Cost Effectiveness of Metal Stents in Pancreatic Cancer

- Metal stents for patients with estimated life expectancy of > 6 months.
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Table 2. Clinical Inputs (cont.)

- Patients with metal stents:
  - Had approximately $2,500 lower costs per patient over a lifetime versus patients with plastic stents.
  - Were estimated to have 0.32 months higher quality-adjusted life years than patients with metal stents.
  - Paid fewer stents were placed over a lifetime (1.4 vs. 2.8).
  - A randomized controlled trials indicated that the number in input rates than other stent occlusion and the number of stent exchanges did not materially impact the results of the study.

- PLastic stent patients: Subsequent Stent Exchanges
  - Plastic Stent Patients: Subsequent Stent Exchanges
  - Following Occlusion or Migration: Plastic Stent
  - Metal Stent
  - Cholangitis
  - Plastic Stent
  - Plastic Stent
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