Short-term outcome after use of a prophylactic mesh in emergency stoma formation

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Introduction

• Parastomal hernias occur in up to 50% of the patients with a GI

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Pre- and postoperative data	Reference Group N=117	Mesh Group N=109	Ρ
Indications for surgery Obstruction or perforation, benign Obstruction or perforation, malignant Anastomotic leakage Vascular insuffiency Colitis Ostomy complications Necrotizing fascitis	54 (46%) 22 (19%) 21 (18%) 7 (6%) 8 (7%) 4 (3%) 1 (1%)	42 (39%) 24 (22%) 22 (20%) 12 (11%) 5 (5%) 4 (4%) 0	0.42
Peritoneal accumulation None or ascites Pus Fecal Unknown	63 (54%) 26 (22%) 28 (24%) 0	52 (28%) 21 (19%) 34 (31%) 2 (2%)	0.14
Operation time, median (iqr), minutes	151 (101-213)	188 (131-241)	<0.0005
Complications requiring reoperation Burst abdomen Stoma related Bowel obstruction Intra abdominal abces Bowel perforation Bowel necrosis Gastric ulcer perforation Anastomotic leakage	24 (21%) 10 (9%) 7 (6%) 4 (3%) 3 (3%) 1 (1%) 0 1 (1%)	25 (23%) 6 (6%) 6 (6%) 5 (5%) 2 (2%) 5 (5%) 1 (1%) 1 (1%) 0	0.66
Other complictions Sepsis Respiratory Superficial wound infection Cardiovascular Intraabdominal absces Urogenital Stroke (cerebral) Short bowel syndrome Stoma related wound infection Gastrointestinal bleeding Other	53 (45%) 30 (26%) 14 (12%) 11 (9%) 10 (9%) 7 (6%) 6 (5%) 4 (3%) 2 (2%) 1 (1%) 0 1 (1%)	70 (64%) $47 (3%)$ $14 (13%)$ $17 (16%)$ $8 (7%)$ $6 (6%)$ $1 (1%)$ $1 (1%)$ $3 (3%)$ $3 (3%)$ $4 (4%)$ $3 (3%)$	0.14
Mortality	19 (16%)	16 (15%)	0.75
Stoma-related complications within 30 days	Reference Group	Mesh Group	Р
Avaliable for analysis	117	109	
Superficial surgical site infection not requiring reoperation within 30 days:	1 (1%)	3 (3%)	0.36
Complications requiring re-operation within 30 days: Necrosis of the ostomy bowel Intraabominal abces Failed attempt to reverse the ostomy due to prolapse Intestinal obstruction Extraperitoneal perforation of the bowel	7 (6%) 5 (5%) 0 1 (1%) 1 (1%) 0	6 (6%) 2 (2%) 1 (1%) 0 1 (1%) 2 (2%)	0.88
30-day clinical follow-up			
Avalable for analysis	80	85	
Stoma related complications Stomal tissue retraction Peristomal bulging Peristomal infection Stomal prolanse	14 (18%) 13 (16%) 0 1 (1%)	23 (27%) 22 (26%) 1 (1%) 0	0.093

- stoma
- In elective surgery prophylactic insertion of a mesh around the stoma has reduced the incidence of parastomal hernias to 5 %

Aim

• To describe the 30-day complication rates after using a prophylactic synthetic slowly resobable mesh in emergency surgery for prevention of parastomal hernia

Methods

• Prospective cohort study with a



historic reference group

• The Reference Group: 117 patients undergoing emergency ileo- or colostomy formation in the two-year period prior to July 2012. No prophylactic mesh

• <u>The Mesh Group</u>: 109 patients undergoing emergency ileo- or colostomy from July 2012 to July 2014. A slowly resorbable synthetic prophylactic mesh (TIGR[®] Matrix Surgical Mesh, Novus Scientific Pte Ltd., Singapore) was inserted retromuscularly at the stoma site 30-day data were collected from patient files including operative time, blood transfusion,

complications, reoperation, intensive care therapy and mortality

Results

- No significant differences between the groups according to demography and perioperative data
- The postoperative 30-day rate of complications, morbidity, reoperations and mortality showed no significant differences between the two groups
- Two cases in the mesh group with an extraperitoneal perforation of the ostomy bowel, one of these was possibly due to mesh erosion

 Operative time was significantly longer in the mesh group

Conclusions

- Use of a resorbable synthetic mesh during emergency ostomy formation was safe although surgery was often conducted in a severely contaminated field
- Long-term follow-up studies are warranted to fully assess the place for a synthetic mesh in stoma-formation under lacksquareemergency surgery