By Jacqueline Pich, PhD, BSc, BNurs

Editor's note: This is a summary of a nursing care–related systematic review from the Cochrane Library. For more information, see http://nursingcare.cochrane.org.

Prosthetic Mesh for the Prevention of Parastomal Hernias

REVIEW QUESTION

Does mesh reinforcement during stoma formation reduce the incidence of parastomal hernia?

TYPE OF REVIEW

A systematic review of 10 randomized controlled trials (RCTs) with a total of 835 participants.

RELEVANCE FOR NURSING

A parastomal hernia allows protrusion of abdominal contents through the abdominal wall and is a common consequence of stoma formation during colorectal surgery. Up to one-third of patients with parastomal hernias require surgical intervention for complications including pain, bowel obstruction, and fistulation; however, this surgery has limited success and a high risk of hernia recurrence. Thus, preventive treatments have been sought that can be implemented at the time of stoma formation, including, recently, the use of mesh. In this technique, prosthetic mesh is placed circumferentially adjacent to the stoma at the time of its formation. The rationale for this method is that the prosthetic mesh will help to reinforce the abdominal wall at the site of potential weakness and thus prevent future herniation. Mesh placement in this way is considered relatively safe and has complication rates of less than 5%.

CHARACTERISTICS OF THE EVIDENCE

This review evaluated whether mesh reinforcement during stoma formation reduces the incidence of parastomal hernia. Ten RCTs comparing prosthetic mesh placement with no mesh placement in participants of any age who had received an ileostomy or colostomy in an elective or emergency setting were included in the review. The primary outcome was the overall incidence of parastomal hernias at a minimum of six months following surgery. Secondary outcomes included reoperation rate at 12 months, operative time of the index operation, and postoperative stoma-related and mesh-related infections.

All trials compared the incidence of parastomal hernia development in the control and intervention groups. A meta-analysis identified a reduced risk of parastomal hernia in participants who received prophylactic mesh compared with those who didn't, a result that was statistically significant. In a subgroup analysis of extraperitoneal versus intraperitoneal operative technique, only the extraperitoneal technique showed evidence of efficacy in preventing parastomal hernia.

Nine of the 10 studies assessed surgical reintervention; meta-analysis of the data found no difference between the control and intervention groups. Stoma-specific infections were reported in eight studies, but there were no differences between the two groups. Of the six studies reporting on operative time, two studies reported a significant increase in time in the intervention arm; however, no significant difference was identified in a meta-analysis of all six studies.

BEST PRACTICE RECOMMENDATIONS

The authors reported a significant reduction in the incidence of parastomal hernia in patients who had prophylactic mesh inserted at the time of stoma formation compared with those who didn't. While the authors rated the quality of this evidence as low, they noted that no significant increase was found in operative times, reoperation rates, or stoma-related infections and concluded that the method was safe.

RESEARCH RECOMMENDATIONS

Since the main body of evidence relating to stoma formation concerns elective surgery, future research exploring the role of prophylactic mesh placement should focus on whether it may have a role in emergency surgery. Similarly, future research that investigates the role of mesh placement in relation to temporary and loop stomas (with focus on cost-effectiveness) would likely add significant value to the current body of evidence. ▼

Jacqueline Pich is a lecturer in the Faculty of Health, University of Technology Sydney, Sydney, Australia, and a member of the Cochrane Nursing Care Field.

SOURCE DOCUMENT

Jones HG, et al. Prosthetic mesh placement for the prevention of parastomal herniation. *Cochrane Database Syst Rev* 2018;17:CD008905.