A Technique to Avoid the Marginal Artery During Divided Colostomy in Neonates

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ABSTRACT:
Colostomy is a frequently performed procedure in neonates presenting with anorectal malformation and Hirschsprung's disease. A divided colostomy is more commonly performed but has a definite risk of injury to the marginal artery during the procedure, leading to stoma necrosis. This is a description of a technique which identifies, displaces and preserves the marginal artery during colostomy construction and therefore ensures a safer colostomy in neonates without the danger of necrosis.

Key words: Technique. Marginal artery, Colostomy

INTRODUCTION
Colostomy is a frequently performed procedure in neonates presenting with anorectal malformation (ARM) and Hirschsprung's disease (HD). A divided colostomy is more commonly performed for patients with high ARM, to allow for a defunctioning distal stoma and stoma prolapse is also uncommon in divided colostomy.

A definite risk in constructing a divided colostomy particularly in neonates, is stoma necrosis with incidence ranging from 2-22% in some series. The necrosis may be due to injury the colon. The marginal artery which lies close and parallel to the intestine on the mesenteric border is an important source of blood supply to the colon and thus the stoma following a colostomy; hence the need to preserve it.

This is a description of the technique to avoid the marginal artery during colostomy in neonates.

TECHNIQUE
Appropriate anaesthesia is given and skin preparation and drapering done. The abdominal incision is made depending on the type of colostomy to be constructed; a transverse or oblique incision in the left lower quadrant for a sigmoid colostomy and a transverse right upper quadrant incision for a transverse colostomy.

Access is gained into the peritoneal cavity by either splitting or cutting the muscles of the anterior abdominal wall with a fine point diathermy. The colon is identified in the usual way and a loop gently withdrawn through the wound. The marginal artery is identified running parallel and close to the intestine on the mesenteric border (Figure 1 and 2). The marginal artery is gently displaced away (0.5-1cm) from the divided colostomy.

This is a description of the technique to avoid the marginal artery during colostomy in neonates.

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Fig. 1 showing marginal artery
Soft clamps are applied and the intestine can now be safely transected without risk of injury to the marginal artery; an artery forceps may be placed between the intestine and the artery for added security during transection (Figure 3a 3b and 4).

The colostomy is then created in a divided fashion with a skin bridge in between the proximal and distal
REFERENCE


