

INTESTINAL ANASTOMOSIS WITHOUT ANGULATION ON MESENTERIC AND ANTIMESENERIC BORDERS

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Summary: It is well known that anastomoses mostly leak at their mesenteric and the antimesenteric corners. In this paper we presented our new modification for intestinal anastomosis technique, that precludes angulations at these corners. We also consider that it may be better to use No. 0.5 absorbable monofilament suture material for intestinal anastomoses.

Key Word: Intestinal anastomosis

Many different techniques have been described for performing the intestinal anastomoses. The inversion of the mucosa seems utmost important for prevention of probable subsequent leakage, and also anastomoses must be watertight (1). Angulations on mesenteric and antimesenteric corners of anastomoses those performed as described these conventional techniques threatens the anastomoses, and time to time causes leakage at these angulation points.

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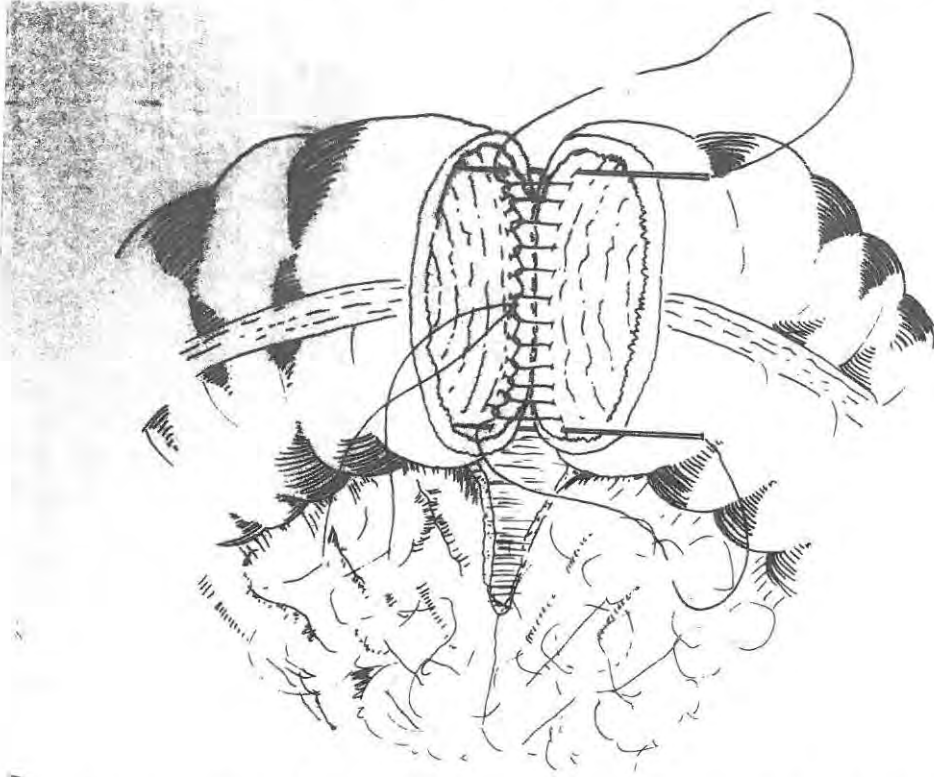


Fig. 1. Insertion of posterior through-and-through continuous interlocking stitch.

For the aim of preventing the angulation and so the leakage we present this technique. We use No. 0.5 absorbable monofilament polydioxanone suture material to minimize the risk of the suture trauma and infection.

After preparing the intestines for anastomosis, posterior through-and-through (all coats) interlocking suture is applied starting at mid-point of the posterior wall, and proceeding upwards to the antimesenteric border and then downwards to the mesenteric border (Fig 1). After completing posterior continuous suture the tails of the sutures at mid-point are knotted and clipped then dragged downwards, it will rotate the anastomosis bringing interior mucosal surface of the antimesenteric border and of the upper part of anterior anastomotic wall in sight, letting to proceed the continuous locking suture (Fig. 2). Then the clipped tails of the sutures are dragged upwards, by the way mesenteric border and neighboring anterior anastomotic wall sutured with continuous locking stitch (Fig 3).

At this time approximately 3/4 of the all anastomotic line (whole of the posterior wall and upper and lower parts of the anterior wall) will have been approximated with continuous locking suture from the interior mucosal surface. We complete rest of the anastomosis with Connell sutures (Fig. 4,5).

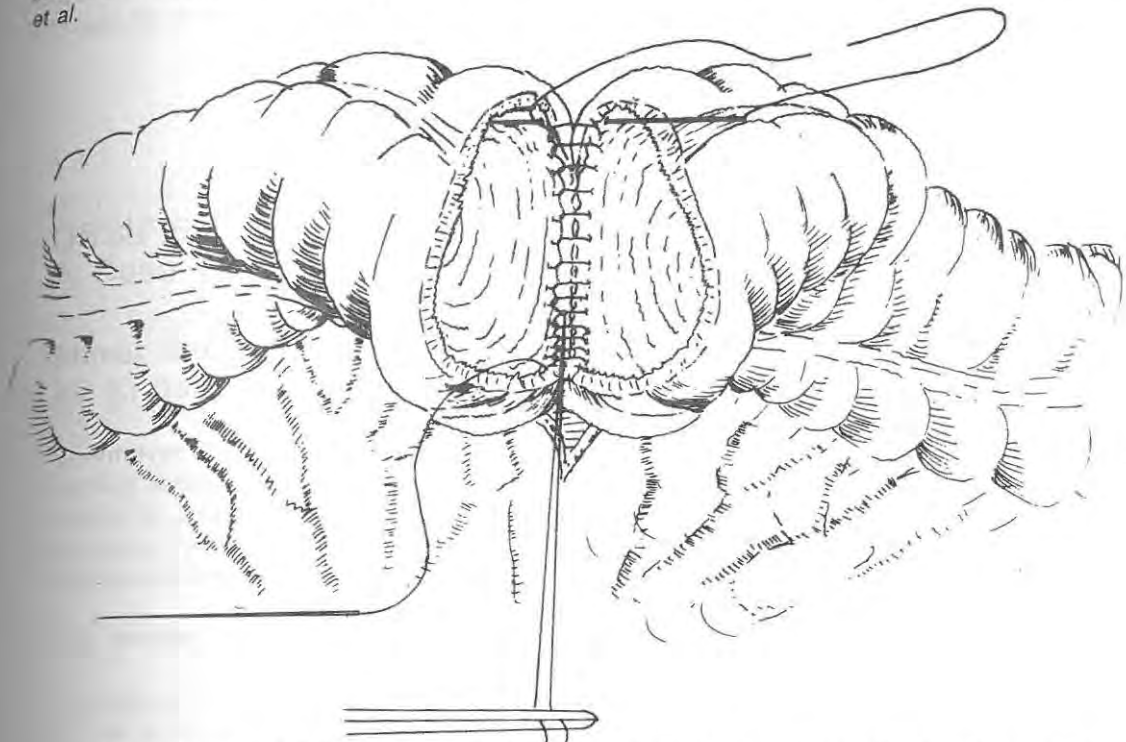


Fig. 2. The tails of the sutures at posterior mid-point were dragged letting to proceed locking suture anteriorly.

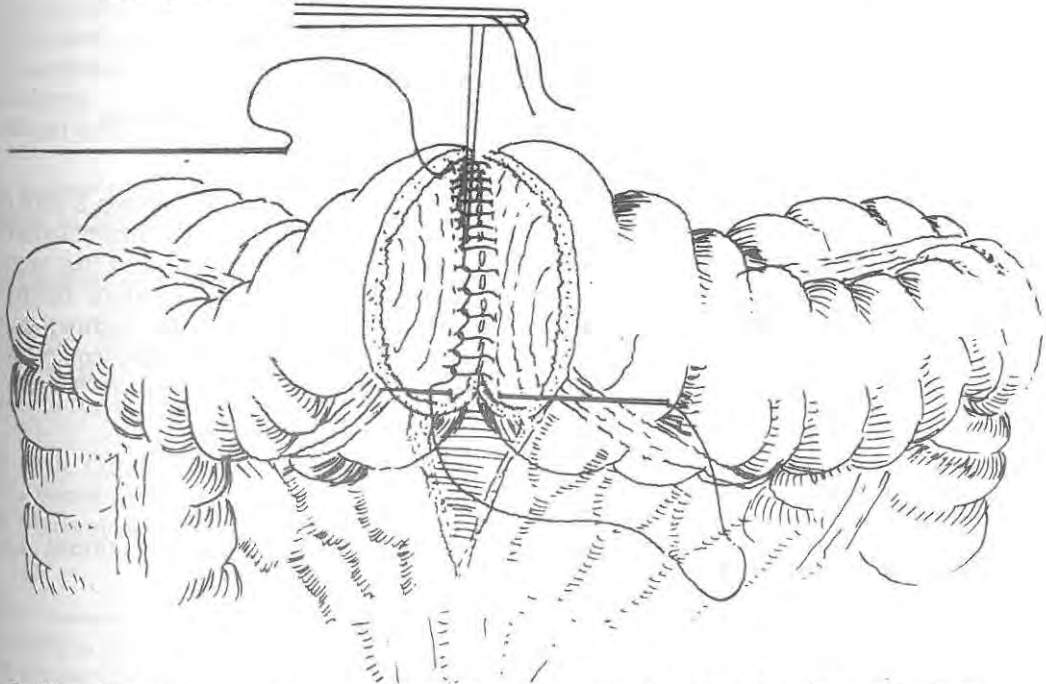


Fig. 3. The tails of the sutures were dragged to the opposite side. Continuous locking suture is proceeding to approximate mesenteric border and neighboring anterior anastomotic wall.

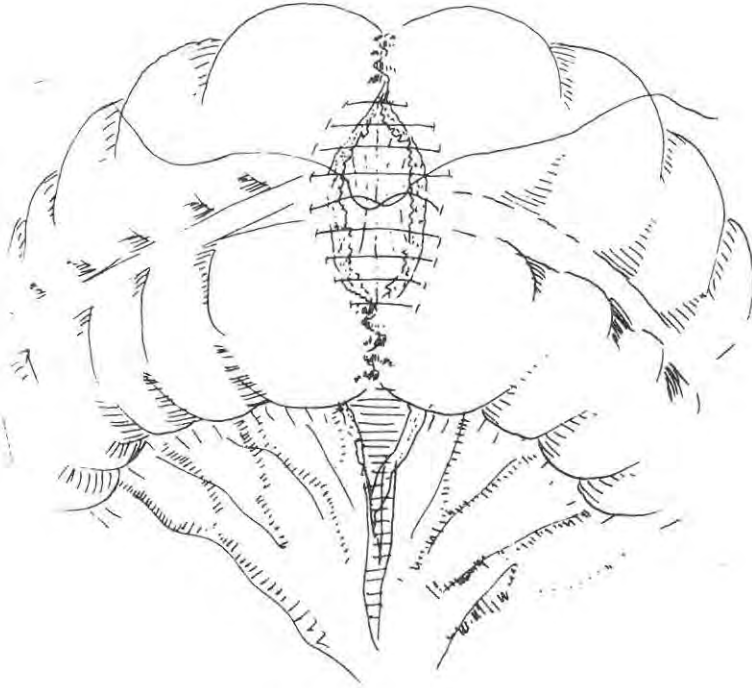


Fig. 4. Rest of the anastomotic line were sutured with Connell sutures.

We also propose to insert the sutures 2 or 3 mm far from edges and to have 3 mm gapes between stitches for a perfect watertight occlusion. Fine stitches with 0.5 monofilament fine sutures will perform tight but not ischemic anastomoses. We have first studied this technique as monolayer anastomoses on rats and we have seen it is much more better than conventional anastomoses. We, now routinely perform this anastomotic technique in our patients and we haven't seen any anastomotic leakage yet. This technique could be used as one layer anastomoses as we do preferentially, and also as the first layer of the two layer anastomoses.

References

1. Goligher JC: *Surgery of the Anus Rectum and Colon*. Balilieri Tindal, London 1980, pp 433-434.