

# TRANSANAL ENDORECTAL PULL-THROUGH IN HIRSCHSPRUNG DISEASE: BEWARE OF A PERFORATION

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## Aim

Examining prevalence and severity of complications after TERPT. Identifying risk factors for developing a complication.

## Methods

Retrospective cohort study including patients with HD who underwent TERPT between 2005-2020. Complication emerging 30-days after TERPT were assessed using Clavien-Dindo. Possible risk factors were tested using (multivariable) logistic regression.

## Results

22 of 106 (21%) patients (17 transanal only; 77 laparoscopic-assisted; 12 laparotomy-assisted) developed 35 complications. Most frequent: anastomotic leakage (n=4, 11%), abdominal abscess (n=3, 9%), anastomotic stricture (n=3, 9%).

Risk factors: older age at time of surgery (OR 1.03 1.00-1.01, p=0.041), open-assisted surgery (OR 12.65, CI 1.712-93.07, p=0.013) and long-segment HD (OR 4.09 CI 1.09-15.39, p=0.037).

## Discussion

A diverting stoma in older patients should be considered. Open-assistance potentially results in more traction on the anastomosis causing complications. We advise the perioperative placement of rectal transanastomotic tube in all patients receiving TERPT to prevent a perforation.

The surgical complication rate of TERPT was **21%**.

Risk factors for complication: **older age at time of surgery, long-segment HD, open-assistance.**

Refrain postoperative **rectal irrigation to prevent lethal perforation.**



Odds Ratio (OR) of development of short-term postoperative complication

	Univariable analysis			Multivariable analysis <sup>1</sup>		
	OR	95% CI	P value	OR	95% CI	P value
Male sex	1.27	0.38 - 4.23	0.698	-	-	-
Gestational age in weeks	1.03	0.83 - 1.44	0.778	-	-	-
Birth weight in grams	1.00	1.00 - 1.01	0.581	-	-	-
Comorbidity	1.28	0.44 - 3.73	0.648	-	-	-
Syndrome	0.94	0.18 - 4.77	0.938	-	-	-
Down's syndrome	0.52	0.06 - 4.50	0.556	-	-	-
Age diagnosis in weeks	1.00	1.00 - 1.01	0.045	-	-	-
Preoperative enterocolitis	1.28	0.24 - 6.85	0.770	-	-	-
Ostomy	-	-	-	-	-	-
Preoperatively	2.44	0.65 - 9.26	0.188	-	-	-
Perioperatively	6.46x10 <sup>9</sup>	0.00-	1.000	-	-	-
Age surgery in weeks	1.00	1.00 - 1.01	0.067	1.00	1.00 - 1.01	0.041
Perioperative antibiotics	1.06	0.27 - 4.12	0.938	-	-	-
Approach to mobilization of colon	1	[reference]	-	-	-	-
Transanal only	1.6	0.33-7.88	0.830	1.20	0.23-6.28	0.830
Laparoscopic	11.3	1.61-78.57	0.013	12.64	1.71 - 93.36	0.013
Laparotomic	-	-	-	-	-	-
Duration of operation in minutes	-	-	-	-	-	-
Operative time	1.00	1.00 - 1.01	0.541	-	-	-
Total time	1.00	1.00 - 1.01	0.307	-	-	-
Long segment disease	2.22	0.67 - 7.39	0.194	4.10	1.09 - 15.44	0.037

<sup>1</sup>. Adjusted R [R<sup>2</sup>] = 0.143