Adhesive small bowel obstruction following abdominal surgery in young children (≤ 3 years):

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Aim

- *1) determine the general incidence of adhesive bowel obstruction (SBO) in young children,*
- *(2) which diseases entail highest incidences of SBO and (3) risk factors for SBO in young children.*

Methods

- **Retrospective cohort** study of all treated by abdominal surgery before the age of 3 between **1998-2018.**
- SBO was based on surgical reports.
- Patients with less than a week of follow-up were excluded.
- Independent risk factors were identified using multivariate cox-regression.

Results

- SBO occurred in 5% (N = 88/1931).
- Most at risk were gastroschisis (17%,N=9/53), necrotizing enterocolitis (8%,N=15/188) and intestinal atresia (7%,N=13/177).
- Having a history of stoma (HR:3.2, 95%-CI:2.0-5.2), undergoing emergency surgery (HR:2.2, 95%-CI:1.3-3.7) and postoperative infections (HR:1.9, 95%-CI:1.2-3.1) were risk factors.

Discussion

- The incidence of SBO seems to be higher in young children compared to older children (1-2%) which is why these age groups should be reviewed separately.
- History of stoma increases risk mostly in NEC & intestinal atresia patients.
- Primary anastomosis did not significantly increase hazard.
- Combining the finding that post-operative infection and emergency operations increased the hazard of SBO, suggests that managing inflammation perioperative could influence adhesion formation and thereby SBO.

The incidence of adhesive obstructions was 5% in our cohort of young patients. Which is higher than in older patients.

A history of stoma is the most important risk factor.

Scan for abstract

Variable			Total operated (N = 2055)	Patients with SBO (N=88)
			Count (%) (N= missing)	Count (%) (N= missing)
Male			1352 (66%)	51 (58%)
Preterm birth			565 (28%) (N=420)	46 (52%) (N=9)
Surgery for birth defect[1]			1032 (50%)	59 (67%)
Median age in days (range)[1]			47 (0 – 1095)	11 (0 - 678)
Median weight in grams (range)[1]			3885 (515 – 17200) (N=1029)	2725 (870 – 8800) (N=49)
Emergency procedure[1]			1055 (51%)	62 (71%)
Laparotomy[1]			1616 (79%) (N=28)	73 (94%)
Intestinal resection[1]			623 (30%) (N=28)	36 (41%)
Anastomosis created[1]			497 (24%) (N=28)	24 (27%) (N=5)
Mean hours duration of surgery (std)			1.4 (1.0) (N=366)	1.9 (1.0) (N=20)
Post-operative infection	Yes	Superficial	133 (8%)	7 (9%)
		Deep	34 (2%)	2 (3%)
		Line infection	133 (8%)	11 (13%)
		Missing origin	162 (10%)	14 (17%)
	No	No infection	1142 (72%) (N=451)	48 (58%) (N=6)
Had a history of stoma			429 (21%)	44 (50%)
Median abdominal procedures (range)			1 (1-13)	2 (1-11)
Median days of follow-up (range)			420 (0 – 8006)	1488 (33 – 7584)
Died since primary operation			127 (6%) (N=10)	10 (11%)