

## Combination of mechanical bowel preparation with oral antibiotics reduced postoperative morbidity in elective colorectal surgery

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### Background:

The optimal bowel preparation strategy to minimize the risk of postoperative complications is yet to be determined. The aim of this study was to investigate whether mechanical bowel preparation with antibiotics, mechanical bowel preparation alone or no bowel preparation reduce postoperative complication.

### Methods:


This is a retrospective study with prospectively collected data. All patients (N=272) who underwent an elective colorectal surgery between January 2017 and December 2018 were analyzed. Primary outcome was postoperative complication (Clavien/Dindo 1-5). Three groups: no preparation (None), mechanical bowel preparation only (MBP), and MBP with oral antibiotics (MBP+ATB) were compared.

### Bowel preparation

None (N=81)

vs.

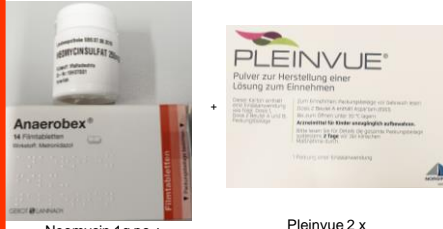
MBP (N=83)



Pleinvue 2 x 500ml

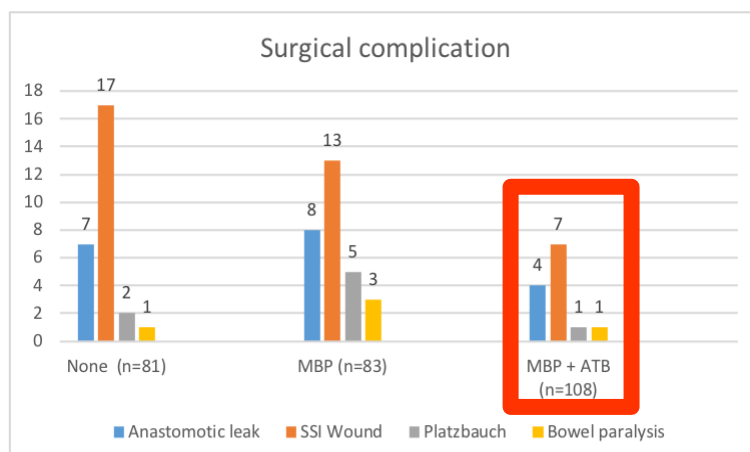
vs.

MBP+ATB (N=108)



Neomycin 1g po + Metronidazol 500mg po at 1, 2 and 3, 10 pm  
Pleinvue 2 x 500ml

## Significant reduction of postoperative complications after MBP+ATB



### Complications

Characteristics	All (n=272)	Preparation			P
		None (n=81)	MBP (n=83)	MBP + ATB (n=108)	
<b>Complication</b>					
All	85(31)	33(39)	32(38)	20(24)	<b>0,001</b>
Surgical	75	27(36)	30(40)	18(24)	<b>0,004</b>
Non Surgical	24	14(58)	7(29)	3(13)	<b>0,002</b>
<b>Clavien Dindo</b>					
1 to 3a	53(19)	21(40)	19(36)	13(25)	<b>0,04</b>
3b to 5	32(12)	12(38)	13(41)	7(22)	<b>0,09</b>

Table 1. Patient characteristics

Characteristics	All (n=272)	Preparation			P
		None (n=81)	MBP (n=83)	MBP + ATB (n=108)	
<b>Gender</b>					
Male	147	34	53	60	
Female	125	47	30	48	
<b>Age</b>					
Median, y (range)	65(23-94)	64(23-94)	67(40-90)	65(23-90)	0,68
<b>ASA classification, n (%)</b>					
1_2	159(59)	50(48)	48(49)	61(63)	0,78
3_4	112(41)	31(34)	35(34)	46(44)	
<b>BMI</b>					
Median, kg/m <sup>2</sup> (range)	25,3(14.9-48)	24,1(16.1-48)	25,5(19.1-46.1)	25,7(14.9-41.3)	<b>0,01</b>
<b>LOS</b>					
Median, d (range)	14(6-101)	16(6-80)	14(6-65)	<b>11(6-101)</b>	<b>0,002</b>
<b>Procedure</b>					
Open	206(76)	70	63	74	<0.001
Laparoscopic	53(19)	11	20	22	
Robotic	13(5)	0	0	13(100)	

### Conclusion:

The combination of preoperative bowel preparation with oral antibiotics reduced significantly postoperative surgical and non-surgical complications after elective colorectal surgery and was associated with decreased hospital stay.