

The impact of gastrointestinal tract resection in oral drug absorption

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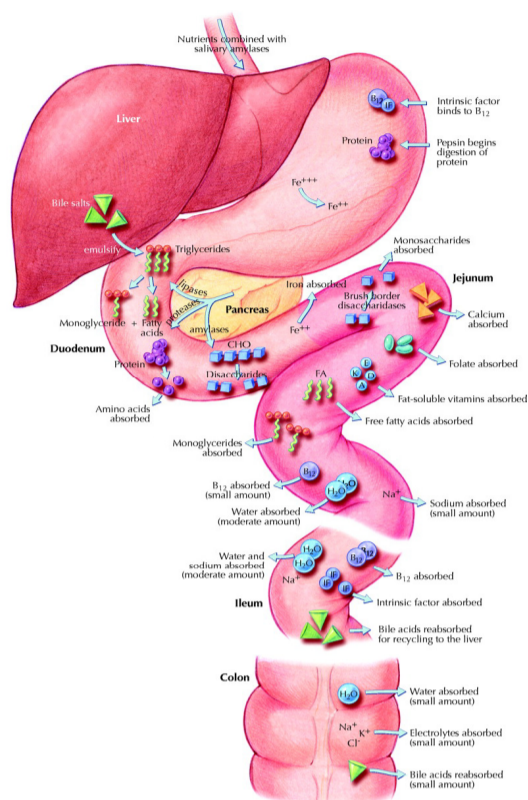
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BACKGROUND

✓ Gastrointestinal tract resection results in a range of physiological changes that affect the absorption of nutrients, water, and electrolytes. These changes may also affect the absorption of orally medication reducing its effect.

✓ The highly heterogeneous of gastrointestinal tract resection patients makes individual monitoring necessary to ensure an optimal clinical effect.



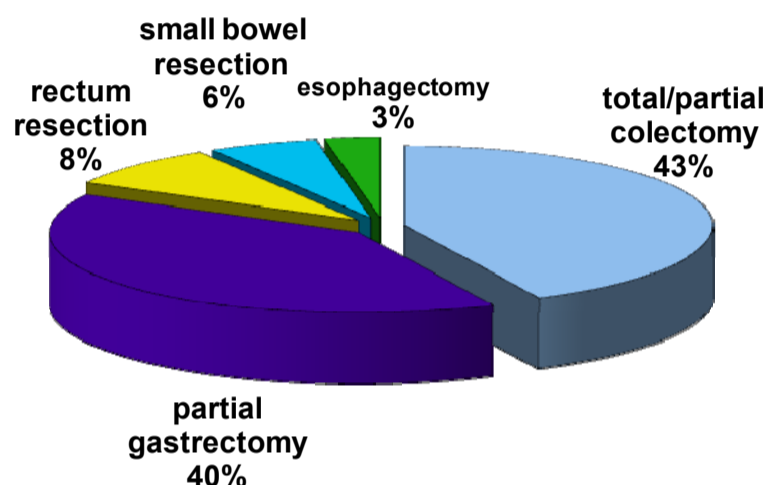
RESULTS

✓ 249 patients undergoing surgery were included (106 women) with a mean age of 57.6 years [16-90]

✓ 35 (14%) patients had gastrointestinal tract resection (mean age 58 years [24-84])

✓ Total/partial colectomy and partial gastrectomy were the most frequent gastrointestinal resections (Figure 1)

Figure 1. Gastrointestinal resections



PURPOSE

- ✓ To determine the incidence of patients with gastrointestinal tract resection.
- ✓ To evaluate the proportion of patients with oral medication, which absorption may be affected after gastrointestinal tract resection.

MATERIAL AND METHODS

- ✓ Observational prospective study of patients undergoing gastrointestinal surgery in a third-level hospital.
- ✓ All patients undergoing general surgery during October 2010 were collected, selecting those with gastrointestinal tract resection.
- ✓ Data were obtained prospectively from medical records.
- ✓ Data collected were:
 - ✓ **Demographics:** age and sex
 - ✓ **Before and after admission pharmacological treatment:** drug, dosage and drug formulation
 - ✓ **Surgery information:** site of resection
- ✓ A bibliographic research was made to establish how gastrointestinal tract resection could affect the clinical efficacy of drugs.

CONCLUSIONS

- ✓ There were few patients treated with drugs affected by gastrointestinal resection. However, they should be closely monitored.
- ✓ There is limited and scarce up-dated literature regarding clinical outcome of drug efficacy in these patients. We should keep in mind those patients with gastrointestinal resection and poor pharmacological response.

BIBLIOGRAPHY

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✓ 7 (20%) patients were treated with oral medication which pharmacological effect may be reduced after gastrointestinal resection (Table 1).

N° Patients (%)	Resection site	Drug	Problem
1 (14,7%)	Small Bowel	Hidroclorotiazide	Absortion decreased
6 (85,7 %)	Gastrectomy	Enalapril	
		Cotrimoxazole	
		Metformin	Decreases B12 vitamin

Table 1. Patients treated with drugs affected by gastrointestinal resection

✓ 3 patients received drugs formulations which couldn't be absorbed because of the gastrectomy.

✓ To avoid a decrease in pharmacological effect patients medication was switched to a correct formulation or to an active substance with an appropriate absorption site.