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# For More Definite Procedures in Colo-Rectal Oncologic Surgery.

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## Abstract

To-day's oncological rules suggest standardized procedures for colo-rectal neoplasms, preferring radical hemicolectomies to more limited segmental resection. Usually this policy agrees with the general surgical principles.

## Introduction

Recently many researches have been made to study the real incidence of colo-rectal cancer and the results of its treatment (1). Considering this last aspect of the problem, we find many different surgical techniques employed, not clearly standardized and accurately reported. Our aim is to propose a simple classification of the different surgical procedures generally used in the treatment of colo-rectal tumours, following the fundamental oncologic principles, and so also facilitating prospective and retrospective reviews.

## Methods

We have divided the main surgical techniques of colo-rectal surgery in two different categories:

1. Procedures performed with oncological indication (Table 1);
2. Procedures performed with not oncologic indications, but for various disease (inflammatory, vascular, traumatic, closure of colostomy etc.) (Table 2).

It is evident that in absence of oncological indication, respect of the main vascular supply, of function of the anal sphincter, preservation of ileo-cecal valve, unnecessary too large resection, limited retroperitoneal dissection, are the main targets for the surgeon. On the contrary, oncological rules oblige to obtain sure resection margins, to perform radical lymphadenectomy, regional dissection, primary venous or arterial devascularization, and possibly to follow the "no touch" technique.

Table 1 Main surgical procedures of colo-rectal resection with oncological indications.

1. Right hemicolectomy (eventually extended to the

transverse colon)

2. Left hemicolectomy
3. Total colectomy
4. Anterior resection of the recto-sigmoid
5. Abdomino-perineal resection

Table 2 Other main procedures without oncological indications.

Segmental resection of:

- a. Caecum
- b. Right flexure
- c. Transverse colon
- d. Left flexure
- e. Sigmoidectomy
- f. Sigmoido-proctectomy

## Discussion

Many factors play in favour of radical hemicolectomies in case of oncological indication.

At first, it is essential to considerer that lymphatic drainage, which parallels the arterial branches supplying the colon and rectum, must guide the extension of resection (2). Consequently the surgical dissection extended to the level of the origin of the primary feeding vessels is formerly advised to ensure inclusion of apical nodes, whose secondary involvement conveys prognostic significance(3). Besides, a tumour can be located in border zones, between two contiguous vascular pedicles; it is evident that corresponding both contiguous lymphatic chains must be resected, to encompass possible bidirectional spread. Extended lymphadenectomy can be justified also by the possibility, present in 4-8% of the cases, of lymphatic skipped metastasis(4).

Considering the vascular supply of the left colon, it must be observed that at the level of the splenic flexure, in 48% of the cases, the marginal artery can be incompletely developed, resulting in a potential "watershed area", with resection margins possibly ischemic and not suitable for a sure anastomosis(5).

From a technical point of view, we must also considerer that an adequate mobilization of the colonic segments is necessary before every anastomosis; this is facilitated by the technique of radical hemicolectomies.

These last procedures permit a wide exposition of the retroperitoneum, with the possibility of "en bloc"

resection of other structures ( Gerota capsule, perirenal fat, gonadal vessels, etc.), as well as, inside the peritoneal cavity, excisions enlarged to greater omentum, gastro-colic ligament, parietal peritoneum.

For tumours of the transverse colon, an extended transverse colectomy enclosing the greater omentum, the right and left superior vascular pedicles with the corresponding lymphatic chains, is necessarily followed by an anastomosis between the ascending and the descending colon. It is clear that a right hemicolectomy extended to the entire transverse colon is technically easier and oncologically preferable (6).

While all these reasons advise against segmental resections, in particular conditions other equivalent solutions can be admitted: sigmoidectomy in case of a long sigmoid and neoplasms located in its middle part (7), and similarly resection of the left flexure, both performed with radical lymphadenectomy and division of the vascular pedicles at their origin. With good reasons these two last procedures, if correctly performed, have been called respectively "upper" and "lower" left hemicolectomy, because of their correspondence with the classical hemicolectomy (8).

## Conclusion(s)

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To-day in the treatment of colo-rectal cancers, general oncological rules induce to prefer radical hemicolectomies to more limited segmental resections, which, nevertheless, in particular cases (sigmoidectomy, or resection of the left flexure), must be performed correctly, with radical lymphadenectomy and vascular pedicle dissection, and not as an inadequate or hurried operation. At this regard we must always remember that surgery still remains the primary therapeutic resource, well supported by modern of pre- and post-operative care measures.(9,10).

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