Robotic right colectomy with complete mesocolic excision (ECM) for adenocarcinoma (with video)

H. Perrin, W. Lescaut, G. Garnier, M. Chazal

Service chirurgie digestive et viscérale, centre hospitalier PrincesseGrace, 1, avenue Pasteur, 98012 Principauté-de-Monaco, Monaco

Service d’oncologie médicale, centre hospitalier Princesse-Grace, Principauté-de-Monaco, Monaco

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Similar to the concept of total mesorectal excision, Hohenberger et al. described in 2009 the technique of complete mesocolic excision (CME) [1]. Complete mesocolic excision corresponds to the dissection of the mesocolon from the parietal plane with true central vascular ligation of the supplying and draining vessels at their roots. In this initial paper including 1329 patients, CME reduced local recurrence from 6.5 to 3.6%, and improved 5 years cancer survival rate from 82 to 89%. The rationale supporting complete mesocolic excision (CME) and D3 type dissection has been based on reported apical lymph node metastasis (in up to 11% of patients with right-side colon cancer), and skip metastasis (from 0.8 to 2% of patients) [2]. Complete mesocolic excision (CME) corresponds to 3 essential steps [2]:

- a meticulous dissection between the mesocolon and retroperitoneum along the Told’s fascia with excision of an unbreached mesocolon;
- a central vascular ligation of main supplying vessels as a D3 lymphadenectomy (Japanese studies) or an apical lymph node excision (European studies);
- a 10 cm-rule for proximal and distal margins to resect epicolic and paracolic nodes metastasis occurring along the marginal artery.

Complete mesocolic excision (CME) was initially described in laparotomy [1], but was later validated in laparoscopy [2]. Thus, safety and clinical benefits of laparoscopic D3 nodes dissection in the treatment of stage II and III colon cancer were demonstrated in comparison with open colectomy. This video shows different steps necessary to perform a robotic right colectomy with modified complete mesocolic excision (CME) as described by Spinoglio et al. [3]. This video describes ports positioning, the sharp dissection along the superior mesenteric vein with D3 lymphadenectomy or apical lymph node excision in a 75 year-old patient. Pathology concluded to a well-differentiated adenocarcinoma stage III, T4 N1b M0 (3N-/59 N). This video is useful for surgeons interested to perform a right colectomy for adenocarcinoma with complete mesocolic excision (CME) (Video, Figs. 1–2).

* Corresponding author.
E-mail address: hubertperrin@gmail.com (H. Perrin).

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Figure 1. Per-operative view, exploring time of an adenocarcinoma of the ascending colon.

Figure 2. Per-operative robotic view of the central vascular ligation of the draining vessels, and apical lymph node excision. The superior mesenteric was sharply dissected.

Disclosure of interest
The authors declare that they have no competing interest.

Appendix A. Supplementary material

References