



Against all odds: why surgeons need to be more aggressive in the era of the multidisciplinary team approach to colorectal cancer

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Over the last 30+ years, during which I have been a colorectal surgeon, I have witnessed more dramatic advances in medical technology than ever before. Accordingly, the overall treatment outcomes for colorectal cancer have improved substantially. We now have a deeper understanding of the biology and behavior of colorectal cancer and have adopted more individual cancer-specific treatment protocols, despite the fact that development of new chemotherapeutic agents or regimens specifically effective for colorectal cancer is progressing very slowly.

The multidisciplinary team (MDT) approach to colorectal cancer is now the standard approach to the management of colorectal cancer and has proven to be beneficial for patients. However, no matter what decision is made through MDT discussions, we should keep in mind that **“a cure cannot be achieved without an aggressive and courageous surgical intervention.”**

A 36-year-old female patient presented with sigmoid cancer with obstruction symptoms. Her computed tomography (CT) scan showed cT4N+ sigmoid cancer with paraaortic and right external iliac lymph node metastasis confirmed on a positron emission tomography (PET) scan (Fig. 1). The liver and lungs were free from metastasis. Colonoscopy could be performed despite the obstructing lesion, and her biopsy findings were as follows: adenocarcinoma, moderately differentiated, RAS wild type, and low microsatellite instability.

In the MDT discussion, since paraaortic lymph node (PALN) metastasis is regarded as M1 disease, neoadjuvant chemotherapy with possible consideration of a stent in case of obstruction was

the primary treatment option. FOLFOX/FOLFIRI + cetuximab was considered as the primary chemotherapy regimen. While this decision would be made by most MDTs, there are a few things to consider in this situation. First, we cannot be sure whether there will be a substantial response to chemotherapy. If there is a poor response to chemotherapy, the chance of curative treatment in this patient would be lost, with the subsequent development of probable unresectable metastases to other organs. Second, we have to consider the possible problems that may be caused by a primary sigmoid lesion. Whether or not a stent is placed over the lesion, and irrespective of the responsiveness, there is a high probability that a primary sigmoid lesion will cause problems, such as perforation or reobstruction, even after stent placement. An emergency situation during chemotherapy will increase the risk of perioperative complications, which in some cases, can be fatal.

At our institution, we have a very aggressive approach to primary colorectal cancer lesions, even in unresectable stage IV situations. Although this remains controversial, we have reported survival benefits of palliative resection in metastatic colorectal cancer [1]. Accordingly, the patient underwent an operation first (Fig. 2). Complete dissection of the right external iliac lymph nodes, together with the paraaortic and aortocaval lymph nodes, was done in addition to anterior resection with modified total mesorectal excision. The pathologic report was T4aN2b, with metastasis in nine out of 18 paraaortic/aortocaval lymph nodes and two out of four external iliac lymph nodes. The patient recovered without any notable events and was discharged on postoperative day 4. After the operation, she underwent 12 cycles of FOLFIRI-cetuximab chemotherapy with monitoring for circulating tumor DNA [2], which turned negative at the end of the 12 cycles. No more chemotherapy was given. After 2 and half years of intensive follow-up, there is no evidence of recurrence. One has to wonder what would have happened if the chemotherapy-first approach had been applied.

An aggressive surgical approach toward PALN metastasis has been my practice, and reviewing the results of PALN dissection for isolated PALN metastasis from colorectal cancer in our small

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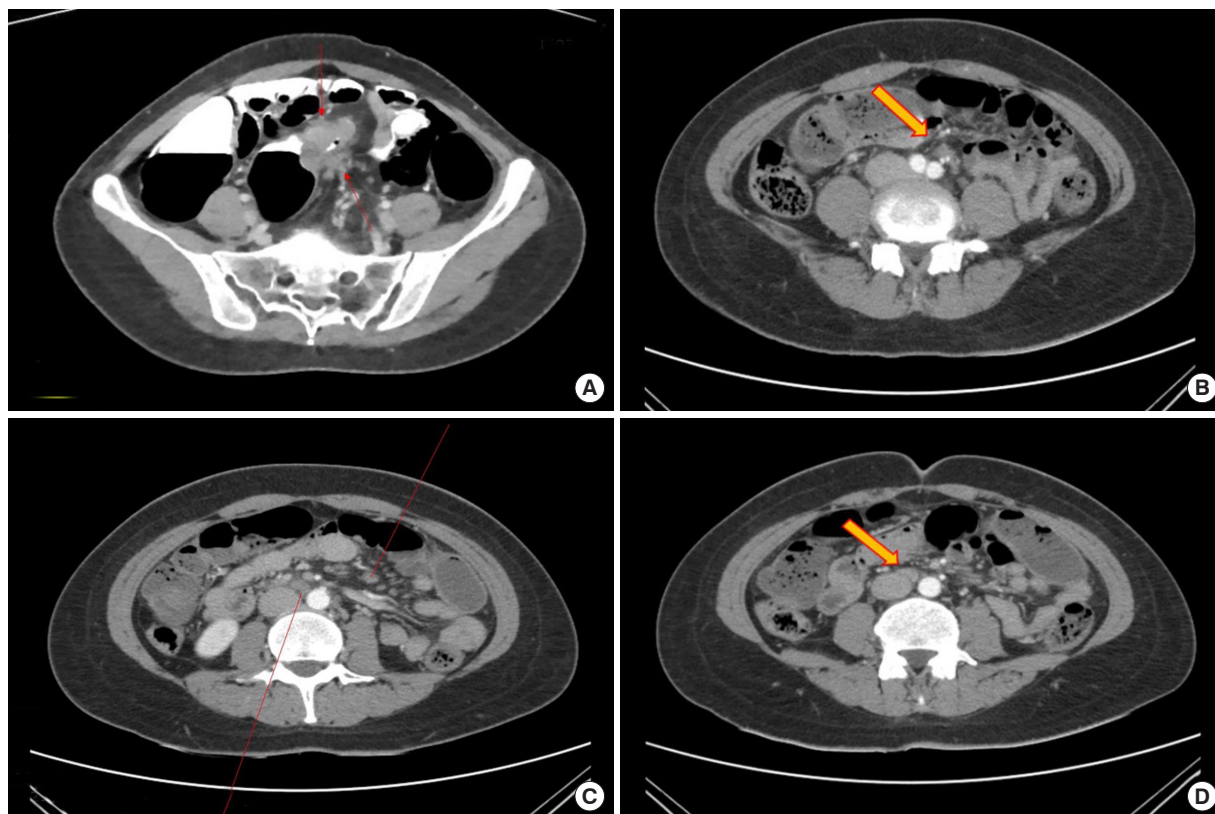


Fig. 1. Computed tomography scan of 36-years old female patient with sigmoid cancer. Paraaortic and aorticaval lymph node metastasis was identified (arrows). (A) cT4 sigmoid cancer, (B) paraaortic lymph node, and (C, D) aorticaval lymph nodes.

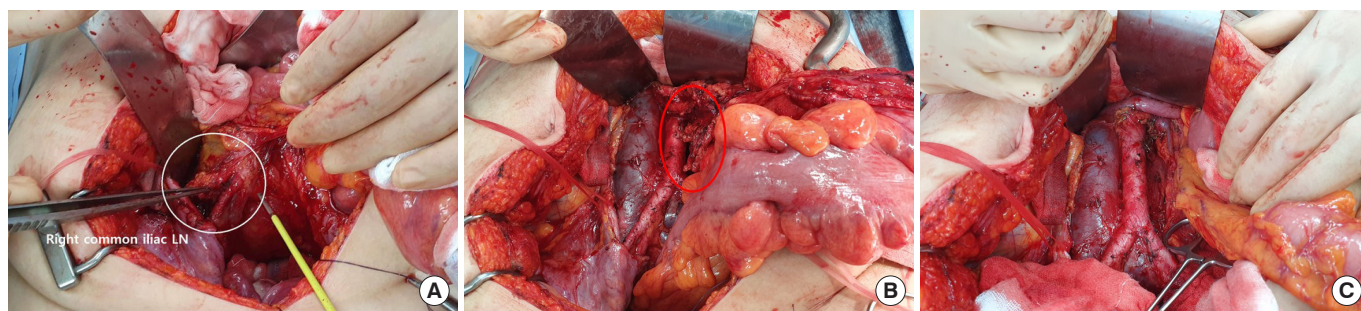


Fig. 2. Operation performed. Complete dissection of the external iliac (A), paraaortic, and aorticaval lymph nodes (B) was done in addition to anterior resection. (C) Paraaortic lymph node dissection was done all the way up to the left renal vein.

series of patients showed survival benefits compared to chemoradiotherapy or chemotherapy alone, with a 5-year survival rate of 58% (unpublished data). This aggressive surgical approach is also applied to cases of oligo-metastasis to the peritoneum at our institution.

Although PALN resection in colorectal cancer patients may be considered a feasible and beneficial option, no conclusions or recommendations can be provided, taking into account the current evidence [3]. However, considering the fact that we perform op-

erations for T1 cancers with risk factors (lymphovascular invasion, histological differentiation, depth of submucosal invasion, and tumor budding), because of a ~10% possibility of lymph node metastasis, it is my opinion that a more aggressive attitude towards isolated PALN metastasis is warranted, especially when a solid MDT is available. This approach is exemplified in the following case.

A 64-year-old male patient who had undergone laparoscopic anterior resection 3 years ago in another hospital visited our MDT

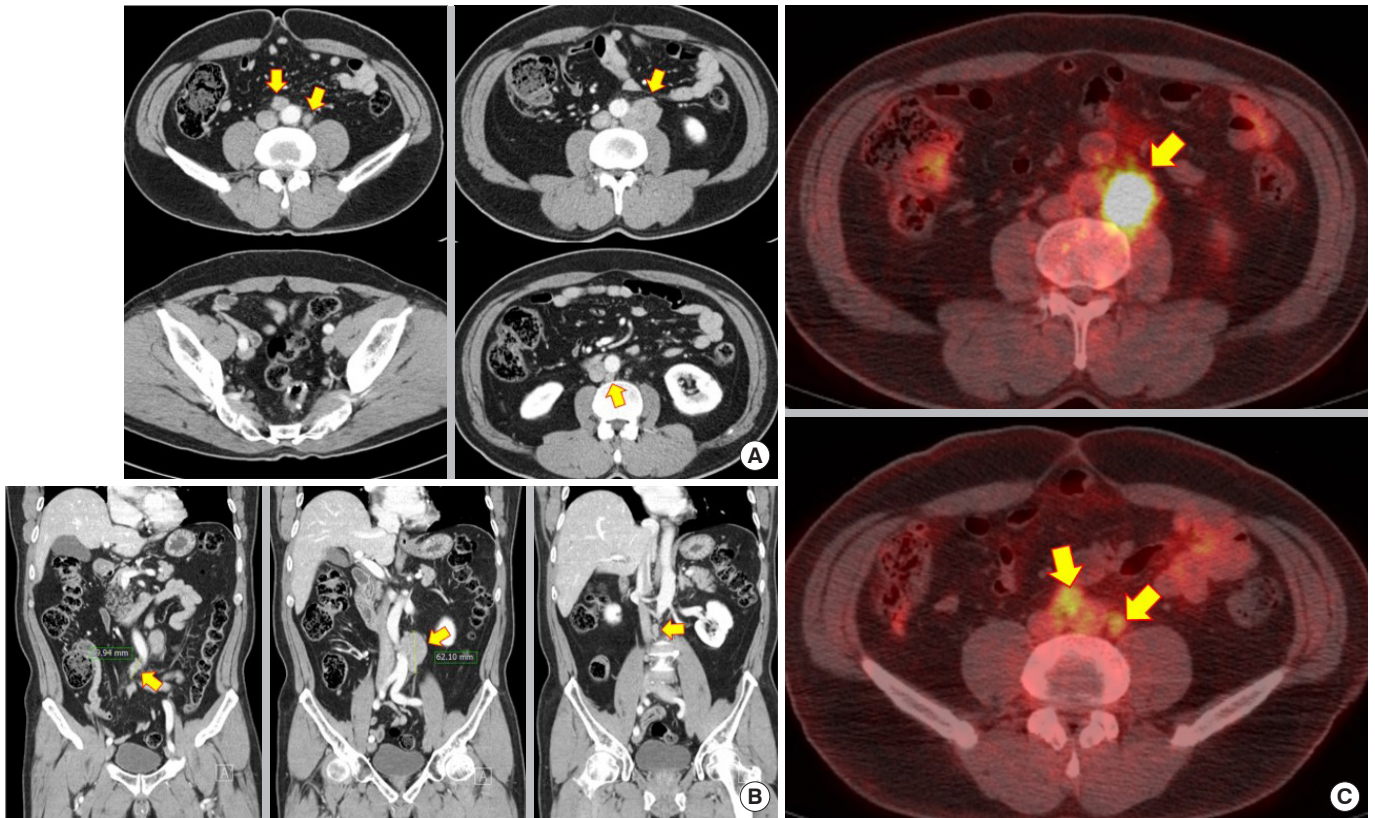


Fig. 3. Computed tomography (CT) and positron emission tomography (PET) scans of 64 years old male patient who had undergone anterior resection for T4N2 sigmoid cancer 3 years ago. Extensive paraaortic lymph node metastasis was identified. (A, B) CT scan showing extensive paraaortic lymph node metastasis as indicated by arrows. (C) PET scan confirming the metastasis to paraaortic lymph nodes (arrows).

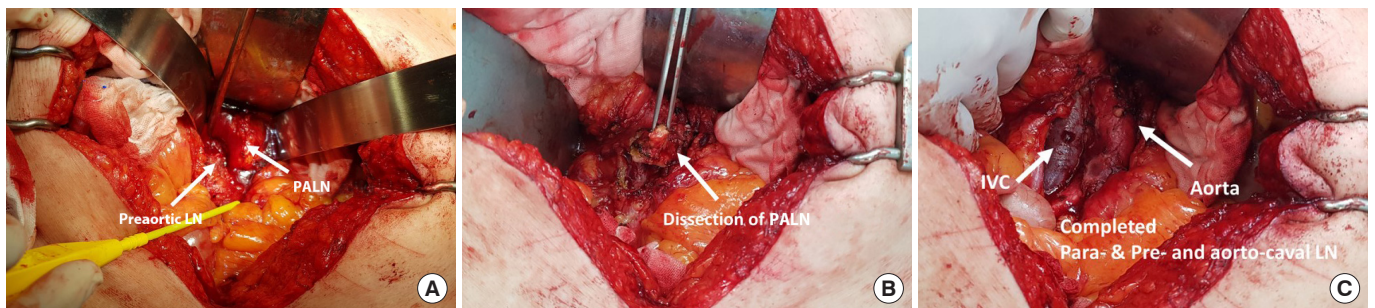


Fig. 4. Operation on extensive paraaortic lymph node (PALN) metastasis. Radical excision of the pre-aortic lymph nodes (LNs), and PALNs was done with preservation colon arcade vessels. (A) Identification of pre-aortic LNs and PALN (arrows) prior to dissection. (B) Performing dissection of PALN (arrow). (C) After completed dissection. Inferior vena cava (IVC) and aorta exposed (arrows).

clinic. His pathology was T4N2, and he received 12 cycles of FOLFOX chemotherapy. On CT and PET scans, extensive paraaortic, aortocaval, and retro-inferior vena cava lymph node metastasis was identified (Fig. 3). After an MDT discussion, according to our principle of aggressive surgery, we proceeded with an operation first (Fig. 4). Radical excision of the pre-aortic lymph nodes and PALNs was done with preservation of the colon arcade

vessels. Pathology revealed metastatic adenocarcinomas in 8 of the 9 lymph nodes that were excised. The patient was discharged on postoperative day 4, and subsequently underwent first-line chemotherapy with 12 cycles of FOLFIRI-bevacizumab, and CT and PET scans showed no evidence of cancer. However, a retrocaval lymph node was detected on CT and confirmed on a PET scan 3 months after completion of chemotherapy (8 months after

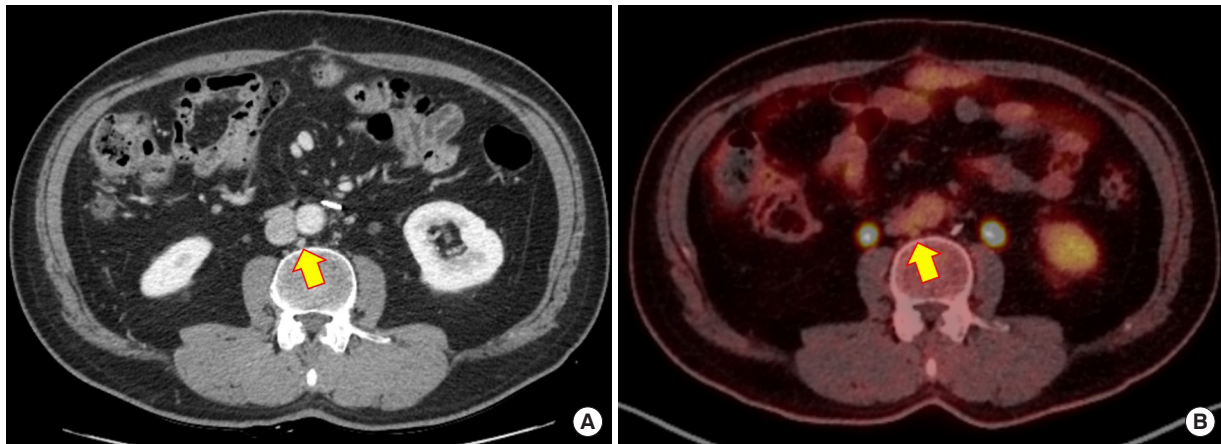


Fig. 5. Recurred cancer at retrocaval lymph nodes 8 months after paraaortic lymph node dissection. Computed tomography (A) and positron emission tomography (B) scans showing the retrocaval lymph nodes (arrows).

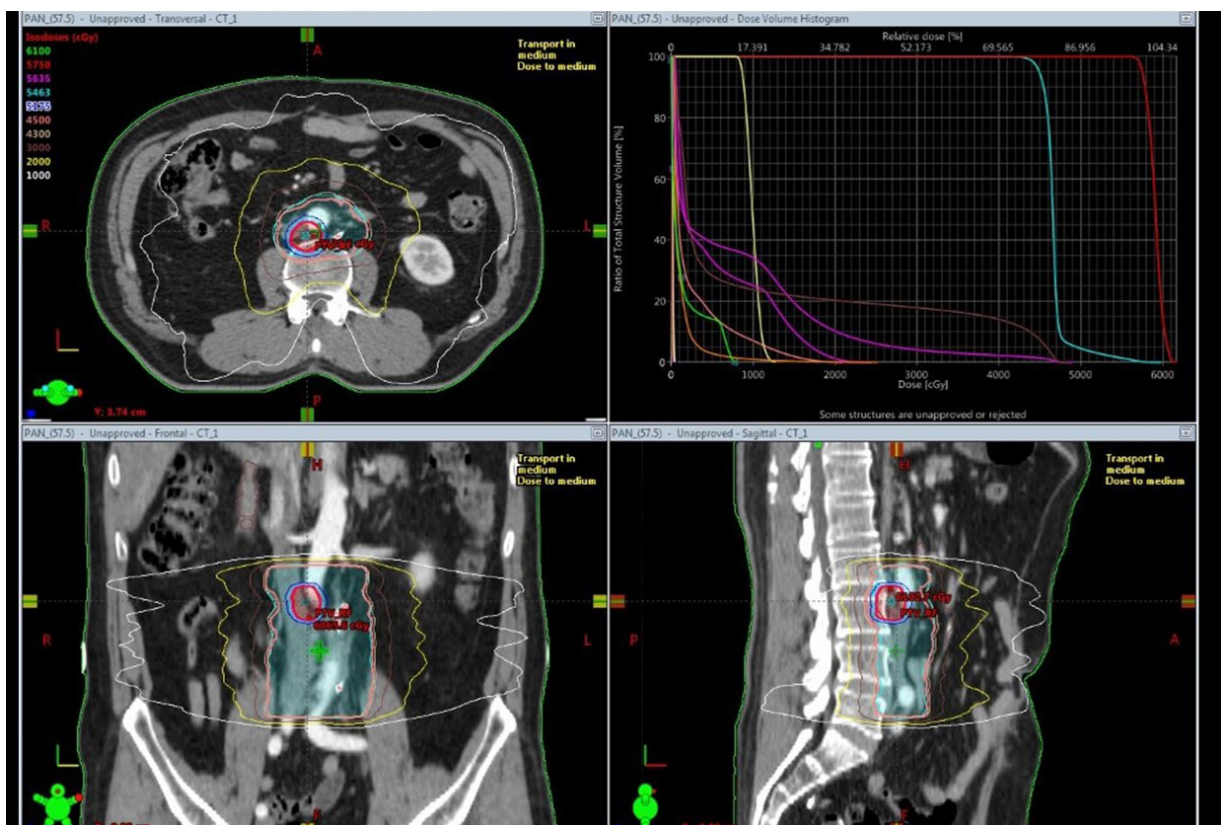


Fig. 6. The planning for radiotherapy on the retrocaval lymph nodes. Salvage stereotactic radiotherapy, 57.5 Gy in 25 fractions was delivered.

PALN dissection) (Fig. 5). At this time, we held an MDT discussion on the remaining options available; more chemotherapy with the same or a different regimen seemed inappropriate, and we decided to rely on radiotherapy as the next option and salvage stereotactic body radiotherapy to the PALN (57.5 Gy in 25 fractions)

was delivered (Fig. 6). After radiotherapy, the patient remained recurrence-free for 4 years—that is, for almost 5 years after the PALN dissection.

These 2 cases of PALN metastasis from colorectal cancer demonstrate the role of aggressive surgical interventions for cases

where obtaining R0 resection is in doubt. In both cases, if surgery had not been performed before the initiation of chemotherapy and/or radiotherapy, a cure could not have been achieved.

Over the last 30 years, despite advances in surgical technology, most innovative changes have been towards minimally invasive surgery (MIS) and related surgical tools. Furthermore, through the MDT approach, we are relying more on chemotherapy and/or radiotherapy when there are opportunities for surgical interventions to achieve cures with more efficiency. My principle is that surgeons should take the central role in the MDT and actively be involved in cases where surgical intervention seems feasible, whether or not R0 resection can be achieved. Remember that **“colorectal cancer cannot be cured without surgical intervention,”** even in cases with metastatic settings. I hope our young colorectal surgeons maintain this aggressiveness, although the current tendency is towards more and more MIS.

Written informed consent was obtained from the patients for the publication of the report including all clinical images

ETHICS STATEMENTS

Written informed consent was obtained from the patients for the publication of the report including all clinical images.

CONFLICT OF INTEREST

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