

D2 surgery for a gastric cancer patient after neoadjuvant chemotherapy

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Abstract: This video demonstrates the surgical procedure for a gastric cancer patient who had responded well to pre-operative chemotherapy. Gastric cancer was pre-operatively confirmed by endoscopy. CT showed that the distal gastric cancer directly invaded the head of the pancreas and meanwhile was associated with metastasis in lymph node stations 3, 6, 7, 8, 9, and 11p. The pre-operative pathological stage was T_{4b}N₂M₀. The patient responded well to pre-operative chemotherapy. Post-chemotherapy CT showed that a gap appeared between the cancer and the head of the pancreas and the lymph node metastases disappeared. D2 surgery was then performed. Surgical features: the metastatic lymph nodes located at vital sites before chemotherapy as well as the primary tumor may form scar tissues after necrosis and cover the major organs and vessels. The disappearance of the metastatic lymph nodes on CT can not rule out the possibility of cancer, which may be detected by pathology. Therefore, these lymph nodes must be dissected. The surgical operation is challenging.

Key Words: Gastric cancer; neoadjuvant chemotherapy; D2 surgery



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A 36-year-old male patient was admitted due to “upper abdominal discomfort for over one month and vomiting after eating for one month”. He was confirmed to be with gastric antrum carcinoma by gastroscopy and biopsy. CT at admission showed that the gastric cancer directly invaded the head of the pancreas and meanwhile was associated with metastasis in lymph node stations 3, 6, 7, 8, 9, and 11p. The cancer was closely involved with the hepatic common artery, root of the splenic artery, abdominal arteries, and root of the left gastric artery. Surgical resection can be challenging. Therefore, a pre-operative FLEEOX chemotherapy was applied. The FLEEOX regimen consisted of a slow intravenous infusion of 5-fluorouracil (5-FU) 370 mg/m² over 5 days and an intravenous infusion of leucovorin (calcium folinate) 200 mg/m² over 5 days, then oxaliplatin 120 mg/m², epirubicin 30 mg/m², and etoposide 70 mg/m² were injected into the tumor site on days 6 and 20. Each cycle lasted 5 weeks.

After two cycles of treatment, a second CT showed that the metastatic lymph nodes completely disappeared, and



Video 1 D2 surgery for a gastric cancer patient after neoadjuvant chemotherapy

only scar left at the primary lesion. He received D2 surgery

ten days after the chemotherapy was completed (*Video 1*).

The metastatic lymph nodes located at vital sites before chemotherapy may form scar tissues after necrosis and cover the major organs and vessels. Therefore, these scar tissues must be peeled off from the vital vessels during the D2 surgery. The surgery, particularly when lymph node stations 6,

5, 8, 9, 11p, and 7, are dissected involving with multiple sites, can easily cause bleeding and therefore is quite difficult.

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