

**Conclusion:** The proposed aggressive treatment program of gastric cancer is feasible, well tolerated and is able to induce a high loco-regional tumor control rate.

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### Clinical study on intraperitoneal hyperthermic perfusion chemotherapy for patients with gastric cancer

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**Purpose:** The prognosis of patients with gastric cancer treated by only surgery are mostly still bad in China. We used intraperitoneal hyperthermic perfusion chemotherapy to hope to increase resection rate and survival rate, and to prevent the side effects of systemic chemotherapy.

**Methods:** 420 cases with gastric cancer were divided into five groups. Both Group A and Group B have 60 cases. Whereas Group A received neo-adjuvant intraperitoneal hyperthermic perfusion chemotherapy, Group B did not. Group C, Group D and Group E have 100 cases for each group. Group C received intraperitoneal hyperthermic perfusion chemotherapy; Group D accepted adjuvant chemotherapy; Group E did not received chemotherapy.

**Results:** The resection rate for Group A was 98.33% (59/60), whereas the resection rate for Group B was 86.33% (53/60) ( $p < 0.05$ ). The rate of side effects of chemotherapy for Group C was 8% (II°), 2% (III°), 1% (IV°), which were lower than 30% (II°), 12% (III°), 6% (IV°) for group D respectively ( $p < 0.05$ ). The 1 year and 3 year survival rates for Group A and Group C were higher than respective ones for Group B and Group C/D ( $p < 0.05$ ).

**Conclusion:** Intraperitoneal hyperthermic perfusion chemotherapy may increase the resection rate and survival rate and prevent the side effects of chemotherapy. The exact value of intraperitoneal hyperthermic perfusion chemotherapy are worth further randomized study.

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### Evaluation for multiple cancer in cases of endoscopic mucosal resection for early gastric carcinoma

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**Purpose:** Endoscopic mucosal resection (EMR) for early gastric carcinoma is a safe and minimally invasive treatment. Meanwhile, there is a need for the continued endoscopic surveillance in search of metachronous multiple lesion. This is because the patient treated with EMR has a whole stomach, the mucosa of which is considered to have a potential for carcinogenesis. In this study, we investigated the clinicopathological features of multiple gastric cancers in the patients who were treated by EMR.

**Methods:** The indications for EMR were those approved by the Japanese Endoscopy Society. The resection method used was double-channel technique with saline injection into the submucosa. A total of 115 patients (84 men, 31 women, mean age 66.6 years) with 127 lesions underwent EMR during the last 7 years. They were endoscopically followed every 3 months in the first year, and annually thereafter.

**Results:** Multiple gastric cancer was observed in 14 patients (12.2%) with 31 lesions. Double cancer was found in 11 patients, of which 5 were synchronous and 6 were metachronous. Gross appearances of the lesions were elevated-type (E)-E in 5, depressed-type (D)-D in 5, and E-D in one. In 7 of 11 cases, lesions occupied the same one-third of the stomach: middle one-third in 4 and lower one-third in 3. Triple cancer was found in 3 patients. Of these, all lesions were metachronous in 2 cases, whereas 2 lesions were synchronous in the remaining case. For these patients, gross appearance was D-D-D in 2 and E-D-D in one.

**Conclusions:** The incidence of multiple cancer in the EMR cases was proved to be high. The multiple lesions were liable to appear in the same macroscopic form and location. It is advisable to be aware of the possibility of finding the multiple lesions both before and after the EMR.

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### Expression of thymidylate synthase and its prognostic value in gastric carcinoma with adjuvant 5-fluorouracil containing chemotherapy

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**Purpose:** The antimetabolite 5-fluorouracil (5-FU) is one of the most common chemotherapeutic agents for gastric carcinoma. Thymidylate synthase (TS) is the target enzyme for 5-FU and intratumoral expression of TS may predict an inverse relationship to response and survival for patients who receive 5-FU containing chemotherapy. We investigate the expression of TS and its prognostic value in gastric cancer patients with adjuvant 5-FU containing chemotherapy after curative resection.

**Methods:** We obtained tissue specimens from 104 patients of surgically resected stage II and III gastric adenocarcinoma. All patients received adjuvant chemotherapy containing 5-FU after curative resection and extensive lymph node dissection. We performed immunohistochemical studying for TS with anti-TS antibody in gastric carcinoma.

**Results:** The positive rate of TS expression was 76.9% in 104 gastric cancers. The group with high and low TS expression consisted of 51.0% and 49.0%, respectively. The differences in recurrence and death rate between TS positive group and negative group were not significant (DFS 61.3% vs. 58.3%  $p = 0.732$ , OS 63.8% vs. 58.3%  $p = 0.625$ , respectively).

**Conclusion:** Our results suggest that TS expression alone could not predict the recurrence and survival in gastric carcinoma with adjuvant 5-FU containing chemotherapy after curative resection.

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### Effects of high dose-rate intraluminal brachytherapy (HDR-ILBRT) for the patients with esophageal squamous cell carcinoma (SCC)

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**Background:** The effectiveness of the multimodal treatment for the patients with esophageal SCC with HDR-ILBRT by 60 Co as a component of treatment was evaluated clinically.

**Patients and Treatment Methods:** 167 patients with esophageal cancer were divided into 4 treatment groups with or without operation and HDR-ILBRT: Group A: 71 patients were performed radical operation, external irradiation and HDR-ILBRT; Group B: 30 patients underwent operation and external irradiation only; Group C: 28 patients with external irradiation and HDR-ILBRT; Group D: 38 patients with external irradiation alone and no other modality.

**Results:** 5-year survival rate of Group A and B was 63% and 20%, respectively ( $p < 0.001$ ). Mean Survival time and 5-year survival rate of Group C (15.3  $\pm$  1.5 months and 20%) were significantly improved compared to Group D ( $p < 0.001$ ). There was no 5-year survival in the patients without brachytherapy.

**Conclusion:** These results strongly suggest the use of HDR-ILBRT as a component of multimodal treatment in patients with esophageal cancer is a reasonable approach and HDR-ILBRT significantly improves the effects of external beam irradiation therapy.

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### Effect of T and N stages on outcome of chemoradiation for carcinoma of anus

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**Purpose:** Chemoradiation has become the standard of care in management of anal cancer. Pathologic confirmation of the clinical stage is usually not available. This study was designed to investigate the effect of T and N stages in patients with carcinoma of anus treated with modern combined radiotherapy and chemotherapy.

**Methods:** Patients with localized squamous carcinoma of anus treated with curative intent with chemoradiation between 1 January 1982 and 31 December 1996 were identified from the anal cancer database at Peter MacCallum Cancer Institute. The standard protocol during this period consisted of radiotherapy of 54 Gy in 30 fractions with chemotherapy 5-FU