

Editorial

## Hyperthermic intraperitoneal chemotherapy: Another choice for advanced gastric cancer?

Gastric cancer is one of the most common cancers throughout the world.<sup>1</sup> Overall, the prognosis of gastric cancer is very poor, and surgery is the main treatment modality for this deadly disease.<sup>2</sup> Standard gastrectomy with D2 dissection is the principal surgical procedure performed with curative intent.<sup>3</sup> However, survival rates after curative surgery for gastric cancer are disappointing.<sup>2</sup> Many patients with gastric cancer have serosal invasion and experience recurrence with peritoneal carcinomatosis.<sup>2</sup> Although adjuvant systemic chemotherapy is used for treating advanced stages of gastric cancer,<sup>4,5</sup> the toxicity of systemic chemotherapy is intolerable for some patients. In 1980, Spratt et al<sup>6</sup> reported that a pseudomyxoma peritonei patient with peritoneal seeding from distal pancreas was treated by surgical resection of the primary lesion and his peritoneal metastases were treated by hyperthermic intraperitoneal chemotherapy (HIPEC). The HIPEC has the advantage of increasing the concentration of chemotherapeutic agents locally administered into the peritoneum with fewer systemic side effects than that seen with systemic chemotherapy. Sun et al<sup>7</sup> analyzed 10 randomized controlled trials from PubMed, Embase, Cochrane Database of Systematic Reviews, and Cochrane Central Register of Controlled Trials, which revealed that HIPEC may improve overall survival after surgical resection for advanced gastric cancer. Furthermore, it helps to prevent peritoneal recurrence among patients with serosal invasion. However, the small number of patients enrolled and publication biases are areas of concern for these studies, and suggest that further research is necessary. In the current issue of the *Journal of the Chinese Medical Association*, Kang et al<sup>8</sup> analyzed 172 gastric cancer patients with serosal invasion and revealed a longer time for recurrence of carcinomatosis and a longer survival rate in the curative gastrectomy plus HIPEC group than in the curative gastrectomy alone group. There was no significant difference in the rate of complications between the two prophylactic groups. The study performed by Kang et al<sup>8</sup> further supports the benefit of HIPEC as an adjuvant therapy for gastric cancer patients with serosal invasion.

Although several studies have demonstrated benefits in terms of both tumor response and survival, there is still no absolute consensus regarding the most effective regimen of administration. To assist in the resolution of this issue, the possible side

effects of the regimen used should also be considered. The combination of heat and drug toxicity may lead to more complications, such as anastomotic leakage, intra-abdominal abscess, wound infection, pulmonary edema, and adult respiratory distress syndrome, especially when used after a palliative surgery.<sup>8</sup> In the study reported by Kang et al,<sup>8</sup> the patient number is small and the design is not randomized. Therefore, further prospective randomized trials are needed to determine the definite role of HIPEC as adjuvant chemotherapy for advanced gastric cancer patients with serosal invasion.

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