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The peritoneum is alive during surgery : from pathophysiology to the operative theater

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**Topic :** Intraperitoneal intraoperative treatments : intraperitoneal chemotherapy and laparoscopic vaporization of treatments

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Non-Animal Stabilize Hyaluronic Acid (NASHA) is a useful vehicle to augment the effect of intraperitoneally administrated paclitaxel and cisplatin for peritoneal carcinomatosis.

Intraperitoneal (i.p) chemotherapy has been reported to be effective for peritoneal metastases. Here, we investigated the ability of Non-Animal Stabilized Hyaluronic Acid (NASHA) to retain the anticancer drugs in the peritoneal cavity and consequently to improve the efficacy of i.p chemotherapy.

In murine model to develop peritoneal metastases of gastric cancer cell line, MKN45, the antitumor effects of paclitaxel (PTX) or cisplatin (CDDP) were evaluated with the number of intra-peritoneal nodules or survival, without or with NASHA. Tissue concentration of PTX or CDDP in metastatic nodules was measured with HPLC.

In mice receiving PTX or CDDP with NASHA, the number of disseminated nodules were significantly reduced than in those without NASHA. The addition of NASHA significantly prolonged the survival of mice receiving CDDP treatment. The concentrations of PTX or CDDP in metastatic nodules were significantly increased by NASHA.

Our results indicate that NASHA increased the concentration of i.p administrated PTX or CDDP in disseminated tumor nodules and markedly enhanced antitumor effects of these drugs. NASHA is clinically useful as the vehicle for the i.p administration of anti-cancer drugs for peritoneal carcinomatosis.