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LETTER TO THE EDITOR

Peritoneal Carcinomatosis: Management Challenges

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Dear Editor,

Our interest in the management of peritoneal carcinomatosis (PC) increased after reading the review by Canda and Sever,[1] published in this journal, which focused on important innovations in this field. They discussed the inherent limitations of preclinical experimental methods (*in vitro*, *in vivo*, and *in silico*), including aspects of new molecular mechanisms involved in cancer management outcomes. Therefore, it seems opportune to add brief comments on more recent literature about PC treatment, emphasizing the significance of the mentioned article, particularly for non-specialist healthcare workers.[2-6]

PC occurs in the course of abdominal cancers, is associated with a poor prognosis, and has few treatment options.[1-6] However, potential therapeutic tools related to interleukin-6 (IL-6) and its soluble receptor have emerged, including for ovarian, gastric, pancreatic, colorectal, and appendiceal cancers, as well as mesotheliomas.[2] The authors highlighted that the IL-6 pathway may play a role in peritoneal cancer dissemination, mesothelial adhesion and invasion, stromal invasion and proliferation, and immune response modulation.[2] Eugster et al.[3] reported the utilization of a 3D-printed composite platform for the sustained release of the tyrosine kinase inhibitor gefitinib, a small-molecule drug used to treat PC and post-surgical adhesions. These biodegradable liposome-loaded hydrogel microbeads may address the challenge of rapid clearance of small molecules, which can limit the effectiveness of intraperitoneal treatments.[3]

Gurusamy et al.[4] studied the effects of hyperthermic intraoperative peritoneal chemotherapy (HIPEC) plus cytoreductive surgery (CRS) with or without systemic chemotherapy, compared with chemotherapy alone, in PC from colorectal, gastric, or ovarian cancers. They concluded the following: the effect of CRS + HIPEC in gastric PC remains uncertain; CRS + HIPEC should be the standard for advanced ovarian carcinoma; and CRS + systemic chemotherapy should be the standard for colorectal PC, with HIPEC administered only as part of randomized controlled trials (4).

Hoskovec et al.[5] evaluated pressurized intraperitoneal aerosolized chemotherapy (PIPAC) every 6 weeks in 41 patients with abdominal cancers, focusing on PC extension, criteria for CRS and HIPEC, the effect on the peritoneal cancer index, peritoneal regression score, and ascites volume. A total of 100 PIPAC procedures were performed, ranging from 1 to 6 per patient, with 2 major complications. Five patients transitioned to CRS and HIPEC, one entered a watch-and-wait strategy following total regression, three continued treatment, and the remainder discontinued due to cancer progression or loss of metastases.[5] The authors concluded that PIPAC was a palliative measure that improves quality of life by reducing ascites and, in approximately 10% of cases, decreases disease extent, facilitating further radical treatment.[5]

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Perelló-Trias et al.[6] reviewed the literature on intraperitoneal drug delivery systems for optimal PC management, aiming to bridge the gap between research and clinical implementation. They emphasized that the adoption of novel delivery systems requires understanding peritoneal reactions, retention, distribution, penetration, metabolism, clearance, microenvironment effects, and systemic toxicity, as well as demonstrating clinical efficacy through randomized trials, which require substantial funding.[6]

Footnotes

Authorship Contributions

Surgical and Medical Practices: V.M.d.S., A.P.T., J.C.M., Concept: V.M.d.S., A.P.T., J.C.M., Design: V.M.d.S., A.P.T., J.C.M., Data Collection or Processing: V.M.d.S., A.P.T., J.C.M., Analysis or Interpretation: V.M.d.S., A.P.T., J.C.M., Literature Search: V.M.d.S., A.P.T., J.C.M., Writing: V.M.d.S., A.P.T., J.C.M.

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