About the Author

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Jesus Esquivel is National Director for hyperthermic intraperitoneal chemotherapy (HIPEC) research at the Cancer Treatment Centers of America (IL, USA). He practices in Philadelphia (USA) and specializes in combining cytoreductive surgery with HIPEC in the management of tumors that have disseminated throughout the abdominal cavity. His clinical research is oriented at minimally invasive treatment of pseudomyxoma peritonei, and at identifying selection criteria for cytoreduction and HIPEC in patients with colorectal cancer, ovarian cancer and peritoneal mesothelioma.

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Foreword

Advances in the management of peritoneal carcinomatosis

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Peritoneal carcinomatosis is a frequent manifestation in the natural history of many gastrointestinal and gynecological cancers. The primary tumors will exfoliate many cancer cells, these cells will attach to the peritoneal surfaces and, after developing their own blood supply in order to sustain their metabolic needs, they will become a peritoneal implant. This process was recognized initially from the rupture of a mucinous appendiceal neoplasm that resulted in pseudomyxoma peritonei syndrome, a large accumulation of gelatinous material throughout the abdomen and pelvis that would present as acute appendicitis, a new-onset hernia, an ovarian mass or simply an increasing abdominal girth. The traditional treatment was directed at relieving the symptoms by a laparotomy with evacuation of the mucinous material.

In 1979, John Spratt performed the first combination of cytoreductive surgery and a heated perfusion with intraperitoneal chemotherapy very similar to what we call hyperthermic intraperitoneal chemotherapy (HIPEC) today in a patient with pseudomyxoma peritonei [1]. The popularity of this combined modality increased significantly over the next two decades, as the surgical approach changed from a debulking procedure to a more comprehensive surgery that involved stripping the peritoneal surfaces in addition to some visceral resections [2]. The results with this new technique were so superior to the standard 'old' approach that the combination of

cytoreductive surgery and HIPEC became the new standard of care for this group of patients.

As surgeons became more familiar with this surgical procedure, this therapeutic intervention was offered to patients with other gastrointestinal and gynecological malignancies with carcinomatosis. Approximately 8% of patients at the time of primary resection, and up to 25% of patients with recurrent colorectal cancer will develop metastatic disease confined to the peritoneal surfaces [3,4]. The combined modality treatment of cytoreductive surgery to remove all visible metastatic disease to the peritoneal cavity and HIPEC to eradicate microscopic residual disease is gaining acceptance, as 5-year survival rates in completely resected patients with colorectal cancer and peritoneal carcinomatosis approach rates of complete resection of colorectal cancer metastatic to the liver [5,6].

In this book, we review some of the historical aspects of peritoneal carcinomatosis, describe the advances in understanding the biological behavior of the different types of cancers that can develop peritoneal carcinomatosis, and how these differences impact the mode of presentation, their radiological findings and their clinical outcome. We review the role of systemic therapy in patients with carcinomatosis secondary to colorectal cancer and explore the role of the combined modality of cytoreductive surgery and HIPEC in the management of epithelial ovarian cancer, a disease process that will have peritoneal dissemination in approximately 75% of patients at the time of diagnosis.

Many questions remain regarding the selection criteria for treatment type and sequence of therapeutic modalities at the time of diagnosis of peritoneal carcinomatosis and the multiple variations in the methodology of HIPEC delivery. We hope this book will answer some of these questions and help us pose additional questions that will get us closer to the truth and will assist in advancing the field of peritoneal carcinomatosis, ultimately benefiting our patients.

Financial & competing interests disclosure

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