

Risk-reducing laparoscopic cytoreductive surgery and hyperthermic intraperitoneal chemotherapy for low-grade appendiceal mucinous neoplasm: early outcomes and technique

Rebecca Fish · Chelliah Selvasekar ·
Peter Crichton · Malcolm Wilson · Paul Fulford ·
Andrew Renehan · Sarah O'Dwyer

Received: 12 March 2013 / Accepted: 12 August 2013
© Springer Science+Business Media New York 2013

Abstract

Background Low-grade appendiceal mucinous neoplasm (LAMN) is a precursor lesion of pseudomyxoma peritonei, which, if treated suboptimally, may later disseminate throughout the abdominal cavity. We previously demonstrated the role of cytoreductive surgery (CRS) and heated intraperitoneal chemotherapy (HIPEC) to reduce the dissemination risk. Here we describe the feasibility and safety of minimal access cytoreductive surgery (MACRS) and HIPEC as an alternative to the open approach.

Methods We evaluated patients with LAMNs at risk of dissemination (known as LAMN II) who were referred to a national treatment centre between 2010 and 2012 and comparison is made between this group and patients undergoing open CRS and HIPEC for the same pathology over the same time period.

Results Of the 39 patients with LAMN II, 10 patients were treated by MACRS and HIPEC and 7 were treated by an open approach. Among the MACRS procedures, there were no conversions to open surgery; median procedure length, median length of stay, and complication rates were similar between groups and there were no 30-day deaths. After 3- and 11-months median follow-up respectively, no patients have evidence of disease progression.

Conclusions The present series demonstrates that MACRS and HIPEC is a feasible and safe alternative to the open procedure with the advantage of smaller abdominal wounds and comparable morbidity and inpatient stay. Longer follow-up is needed to assess the impact on disease progression.

Keywords Pseudomyxoma peritonei · Cytoreduction · Heated intraperitoneal chemotherapy · Laparoscopic surgery · Low-grade appendiceal mucinous neoplasm

Pseudomyxoma peritonei (PMP) is a rare epithelial tumour with an incidence of 1–2 per million in Western populations. It usually arises from a low-grade appendiceal mucinous neoplasm (LAMN) and leads to progressive accumulation of mucinous ascites and dissemination of mucinous tumour deposits throughout the peritoneal cavity [1]. Treatment for PMP involves cytoreductive surgery (CRS) and heated intraperitoneal chemotherapy (HIPEC) as described by Sugarbaker [2]. LAMNs are recognised as the precursor to disseminated PMP [3]. Some patients may present with a LAMN without any evidence of having developed disseminated peritoneal mucinosis, characteristic of PMP. These patients are at risk of developing PMP. Recently, two subtypes of LAMN have been described: A LAMN I lesion consists of disease confined to the appendiceal lumen, whilst a LAMN II lesion is characterised by mucin or neoplastic epithelium in the appendiceal wall and/or periappendiceal tissue [4]. Classification of LAMN lesions into type I and type II allows a stratification of risk of developing PMP. Currently, patients with LAMN II lesions are counselled and offered open CRS and HIPEC or surveillance with regular CT scanning and tumour markers (CEA, CA19-9, and CA125).

R. Fish (✉) · C. Selvasekar · P. Crichton · M. Wilson ·
P. Fulford · A. Renehan · S. O'Dwyer
Peritoneal Tumour Service, The Christie NHS Foundation Trust,
Wilmslow Road, Manchester M20 4BX, UK
e-mail: becca.j.fish@gmail.com

C. Selvasekar
e-mail: crselvasekar@aol.com

A. Renehan
Manchester Academic Health Science Centre, Institute of Cancer
Sciences, University of Manchester, Manchester, UK