

Introduction

Patients undergoing pancreatectomy for tumors which are believed to be resectable by preoperative imaging experience high rates of lymph node positivity, margin positivity and local/regional recurrence.^[1-6] In spite of this, many surgeons are reluctant to recommend neoadjuvant radiotherapy which might have the potential to sterilize microscopic disease in the operative bed and reduce the incidence of these events. This reluctance is presumably due to concerns that even moderate dose radiotherapy in the range of 50.40Gy might complicate what is already a lengthy and complicated operation.

The current series reviews the surgical outcomes for a group of patients with initially unresectable disease who, after high-dose proton radiotherapy (59.40 Gy [RBE]) and chemotherapy (oral capecitabine, 1000 mg, twice a day), achieved enough of a radiographic response to justify surgical exploration. The favorable physical characteristics of proton radiotherapy are demonstrated in **Figures 1 and 2**. Specific attention is paid to the surgical metrics of: duration of surgery; estimated blood loss; and hospital length of stay which are compared to benchmark studies in the surgical literature.

Patients and Methods

This is a retrospective single-institution study of patients enrolled on either the University of Florida Health Proton Therapy Institute PC-O1 trial for patients with unresectable disease or the University of Florida Health Proton Therapy Institute outcomes-tracking study. **Both studies were approved by an institutional review board at the University of Florida College of Medicine in Jacksonville, FL.** The statistical methods of this study were reviewed by Christopher G. Morris from the Department of Radiation Oncology, University of Florida College of Medicine.

From April 20, 2010 to September 30, 2013, 15 patients with initially unresectable pancreatic cancer were treated with full-dose proton therapy with concomitant capecitabine at 1000 mg taken orally twice a day. All patients received 59.40 Gy (RBE) to