

## Molecularly targeted therapy and radiotherapy in the management of localized gastrointestinal stromal tumor (GIST) of the rectum: a case report

Marzia Ciresa<sup>1</sup>, Rolando Maria D'Angelillo<sup>1</sup>, Sara Ramella<sup>1</sup>, Francesco Cellini<sup>1</sup>, Diego Gaudino<sup>1</sup>, Gerardina Stimato<sup>1</sup>, Michele Fiore<sup>1</sup>, Carlo Greco<sup>1</sup>, Raffaele Nudo<sup>2</sup>, and Lucio Trodella<sup>1</sup>

<sup>1</sup>*Cattedra di Radioterapia Oncologica, Università Campus Bio-Medico, Rome;* <sup>2</sup>*Chirurgia Generale, Casa di Cura Fabia Mater, Rome, Italy*

---

### ABSTRACT

---

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal neoplasms of the gastrointestinal tract. The main treatment for localized gastrointestinal stromal tumors is surgical resection. These tumors respond poorly to conventional cytotoxic chemotherapy agents and to radiotherapy. Imatinib mesylate, a small-molecule kinase inhibitor, has proved useful in the treatment of recurrent or metastatic GISTs and is now being tested in the adjuvant and neoadjuvant setting. The role of radiotherapy in the management of patients with GIST is currently restricted to symptomatic palliation.

We present the case of a 54-year-old man affected by rectal GIST extending to the anal canal, with constipation, hematochezia, and anal pain. He received imatinib, 400 mg orally per day, for a week before and during radiation therapy. Irradiation was delivered to the gross tumor volume by 3D conformal therapy. The planned total dose was 50.4 Gy in fractions of 1.8 Gy daily. We observed a partial clinical response 3 weeks after the end of combination treatment. The patient then underwent a sphincter-saving surgical procedure. There was no perioperative morbidity and a complete pathological response was obtained.

At the present time, the role of radiotherapy in the management of patients with GIST is restricted to symptomatic palliation. The introduction of molecularly targeted therapy combined with radiation therapy could improve the outcomes for patients diagnosed with GIST.

---

**Key words:** localized gastrointestinal stromal tumor, neoadjuvant radiotherapy, imatinib.

*Correspondence to:* Marzia Ciresa, Via E. Longoni 47, 00155 Rome, Italy.  
Tel +39-06-22541420;  
fax +39-06-22541433;  
e-mail m.ciresa@unicampus.it

Received February 25, 2008;  
accepted July 11, 2008.