Phase II Study of Neoadjuvant Modified FOLFOXIRI in Locally Advanced Pancreatic Cancer

Enrico Vasile, Nelide De Lio, Carla Cappelli, Luca Pollina, Laura Ginocchi, Aldo Sainato, Maurizio Lucchesi, Niccola Funel, Chiara Caparello, Sara Caponi, Vittorio Perrone, Francesco Pasqualetti, Stefano Signori, Salvatore Mazzeo, Mario Belluomini, Carlo Greco, Daniela Campani, Franco Mosca, Alfredo Falcone, Ugo Boggi

“Azienda Ospedaliero-Universitaria Pisana”, Tuscan Institute of Tumors. Pisa, Italy

Context FOLFIRINOX has shown high activity in metastatic pancreatic cancer patients and therefore the regimen could be of interest also for patients with inoperable locally advanced disease. Our group had developed a very similar schedule in colorectal cancer named FOLFOXIRI with no bolus 5-fluorouracil and a slight lower dose of irinotecan with good tolerance and activity. Objective We have performed a phase II trial in order to prospectively evaluate the activity of a modified (m)FOLFOXIRI regimen in locally advanced pancreatic cancer. Methods mFOLFOXIRI consisted of: oxaliplatin 85 mg/m², irinotecan 150 mg/m² and folinic acid 200 mg/m² on day 1, plus infusional 5-fluorouracil 2,800 mg/m² administered in 48 hours on days 1 to 3, with cycle repeated every 14 days. The study enrolled patients with diagnosis of pancreatic cancer, stage III locally advanced disease without evidence of metastatic disease, ECOG performance status (PS) 0 or 1, age 18-75 years. The primary endpoint of the study was the percentage of patients who achieve radical surgical resection after chemotherapy; the trial was designed with a percentage of low activity of 30% and a percentage of interest of 50% with an α and β errors of 0.05 and 0.20, respectively. Results Twenty-five patients have been so far enrolled; M/F: 8/17; PS 0/1: 10/15. Median age was 60 years (range: 44-75 years). Celiac axis was involved in 9 patients, superior mesenteric artery in 11 cases, both arteries in 5 patients. Baseline computer tomography showed pathological nodes in 21 patients. Twenty-one patients have been evaluated, with 9 partial responses (43%) and 12 stable disease (57%). A local treatment after chemotherapy was received by 13 patients until now: 8 (38%) underwent to radical surgery; 1 had an explorative laparotomy with evidence of liver metastases; 4 received concomitant chemoradiotherapy with gemcitabine. Median progression-free survival was 24.5 months and median overall survival was 30.1 months. Conclusion Chemotherapy with mFOLFOXIRI seems active in locally advanced pancreatic cancer patients and may allow to obtain a downstaging of disease leading some patients to achieve a curative surgical resection. Longer follow-up is needed to better evaluate long-term outcome of this strategy.