Phase II study of gemcitabine and curcumin as first line treatment for locally advanced or metastatic pancreatic cancer: preliminary data

C. Soldà1, R. Bardini2, C. Sperti3, G. Da Dalt3, M. Gion4, P. Fiduccia1, F. Ursini5, C. Aliberti1, D. Pastorelli6

1Istituto Oncologico Veneto-IRCCS, Padova, Italy
2University of Padova, Padova, Italy
3Department of Surgical, Oncological and Gastroenterological Science, Padova, Italy
4Department of Clinical Pathology, Venezia, Italy
5Department of Molecular Medicine, Padova, Italy
6Istituto Oncologico Veneto (IOV) – IRCCS, Padova, Italy

Introduction: Gemcitabine (GEM) was the first drug to demonstrate survival advantage and improvement in quality of life (QoL) advanced pancreatic cancer (PC). Improvement in response rate (RR), progression free survival (PFS) and overall survival (OS) were obtained with newer combination treatments but at the expense of increased toxicities. Thus, GEM still represents one of the standard treatments for PC. Curcumin has demonstrated antiinflammatory, antioxidant and potential antitumor properties in different solid tumors. Therefore, we evaluated the possible synergistic activity of curcumin extract, conjugated with phospholipids to enhance bioavailability, and GEM in advanced PC.

Methods: This was a single center, single arm prospective phase II trial. Inclusion criteria were: previously untreated patients with histologically confirmed metastatic or locally advanced PC, ECOG performance status of 0-2, adequate organ function and written informed consent. The patients received GEM (1000 mg/mq in 100 minutes on day 1,8,15 every 28 days) and curcumin (2000 mg/die, continuously) until progression or unacceptable toxicities or patients refusal.

Primary endpoint was RR (according to RECIST criteria version 1.1); secondary endpoints were PFS, OS, tolerability and QoL. Serum samples collection for inflammatory biomarkers was also performed.

Results: Between October 2012 and February 2015 a total of 55 consecutive patients were enrolled. Thirty-nine patients (14 females and 25 males; 14 patients locally advanced disease and 25 metastatic) are at present suitable for primary endpoint evaluation. Median age was 66 years (range 42-80); all patients except one had ECOG performance status 0-1. The median number of treatment cycle was 4 (range 1-14). The overall RR was 28.2% (all partial responses), stable disease (SD) was reported in 33.3% of cases with a disease control rate (RR + SD) of 61.5%. Grade 3/4 hematological toxicities included neutropenia (41%, but no febrile neutropenia were observed) and anemia (7.7%). Neither grade 3/4 non-hematological toxicities nor treatment-related deaths were reported.

Conclusion: The addition of curcumin to GEM was safe, well tolerated and translate in good disease control rate in first line therapy of advanced PC. The trial is still recruiting patients and definitive results are still pending. Biomarker analyses are ongoing to identify potential patients who can get more benefit with this combination.