Oral Metronomic Chemotherapy for locally advanced, recurrent metastatic Gastric carcinoma: A Single Group, Prospective, Phase 2 study in India

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Introduction: No standard treatment exists for patients with metastatic, recurrent and inoperable locally advanced gastric cancer. Taxanes, platinums and 5 fluorouracil derivatives are commonly used, but response is less than 20% with no survival benefit. We report our experience with patient for whom oral metronomic chemotherapy was effective and tolerable in the treatment of gastric cancer with dissemination.

Methods: We did an open-label, single-group, at our university hospital in India. We enrolled patients aged at least 18 years with histologically confirmed, locally advanced inoperable, or metastatic and recurrent measurable gastric cancer with documented progression. Patients received tablet tegafur uracil two times per day orally daily and tablet leucovorin 15 mg two times per day orally daily for 4 weeks. They also received tablet cyclophosphamide 50 mg and tablet etoposide 50 mg orally daily for 3 weeks and 1 week gap, next cycle due on 28 days. Treatment continued until disease progression or occurrence of unacceptable toxic effects. The primary endpoint was objective tumour response, defined by a complete response (CR) or partial response (PR) according to Response Evaluation Criteria In Solid Tumors (version 1.0) criteria.

Results: We enrolled 50 patients between January 2012 and December 2014. Patients received a median of 18 cycles (range one to 36 months). 47 patients were evaluable; one (2.1%) had a CR and 12 (25.5%) had Progressive disease, the remaining 72.3% had either stable disease or partial response resulting in an overall response of 74.4%. The most frequently recorded adverse events of any grade were neutropenia (20%), fatigue (29%), pain (20%), alopecia (51%), and infection (5%). 2 patients died of sepsis with an underlying progressive disease. Median duration of survival 18 months and longest is more than 30 months. The cost of each cycle was just Rs 11000 INR or 200 USD per month.

Conclusion: Metronomic Oral chemotherapy with tablet tegafur uracil, leucovorin, etoposide and cyclophosphamide was well tolerated in this population of patients with pretreated, locally advanced inoperable and metastatic gastric cancer with an encouraging tumour response in approximately 75% and longest survival so far is 30 months. These encouraging results warrant further study, which is unheard in literature. This concept of low dose chemotherapy, which is tolerable, non-toxic, outpatient basis and cost effective is a very popular therapeutic option in developing countries.