Hepatic arterial infusion chemotherapy for unresectable liver metastases of colorectal cancer: a multicenter retrospective study

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Background: Hepatic arterial infusion chemotherapy (HAIC) is a treatment used for isolated liver metastases (LM) of colorectal cancer (CRC). It is used in only few experienced centers in France. Our aim was to evaluate its feasibility, efficacy and tolerance in 4 centers which have recently developed HAIC.

Methods: Clinical, biological and radiological registered data from patients treated with HAIC for unresectable LM from CRC in 4 institutions from October 2011 to January 2016, were retrospectively analyzed. Toxicity data were graded using NCI-CTCAE V4.0 classification. RECIST criteria were used for response rate analysis. Progression-free (PFS) and overall survivals (OS) were estimated using the Kaplan-Meier method.

Results: 61 patients were included. 4.9% of them received no prior systemic chemotherapy, 50.8% received one prior line of chemotherapy, and 44.3% received two prior lines or more. 83% of them have previously received systemic oxaliplatin.

1. HAIC treatment: Oxaliplatin HAIC was delivered with a median of 6 courses (range 1 to 18) with 5FU-LV regimen alone in 43.3% of patients, or combined with other IV chemotherapies or monoclonal antibodies in 56.7% patients.

2. HAIC response:
   Tumor response rate was 21.3%, tumor control rate was 70.5%, and hepatic tumor control rate was 73.7% (Figure 1).
   Median hepatic PFS, median PFS and median OS were 9.0, 6.0 and 13.8 months, respectively.

A secondary R0-resection was possible in 10 cases (16.4%) allowing to obtain a 2-year survival of 80% (Figure 2).

3. HAIC toxicity:
   Catheter-related complications were observed in 31.1%. Grade 3-4 clinical toxicities were reported in 16% of patients, including 9.8% of neurotoxicity, and grade 3-4 biological toxicities were reported in 24.6% of patients including 22.2% of neutropenia.

Conclusion: In centers which recently developed HAIC using oxaliplatin, this treatment is feasible and has acceptable tolerance. The results, in term of hepatic PFS, PFS, OS and the rate of secondary resections of LM, are in the range of published data, and they confirm the interest of HAIC in patients in progression.