

Imaging diagnosis

Case 366

3. Colon cancer with liver metastasis and hemangioma

【Progress】

He was treated with chemotherapy using XELOX. Seven months later, metastatic tumor was partially regressed while hemangioma remained no change in size (Fig 4).

【Discussion】

It is surprise-worthy that in 1970ies when I learned medical science, gastric cancer is the most in number of cancer patients and in death rate, but at present, 2024, they are dramatically changed. Namely, in 2022 data, the number of gastric cancers is the third, the death rate of gastric cancers is the third (1). Of all cancers in number, colon cancer is the most, although prostate cancer is the most in male, and breast cancer is the most in female. Of all cancers in death rate, colon cancer is the second although colon cancer is the second in male, and colon cancer is the first in female (1).

Chemotherapy is served for unresectable advanced colon cancer using XELOX (Xeloda, capecitabine and Oxaliplatin) and Bz (Bevacizumab). Xeloda, capecitabine becomes 5FU (fluorouracil) as a final product via digestive organ, liver, and tumor itself. Fluorouracil is the one of derivatives of uracil. Uracil is a precursor of thymidine, one of the nucleotides of DNA, and a nucleotide of RNA. Then, 5FU indicates to function to block uracil production, inducing interruption of syntheses of both DNA and RNA.

Oxaliplatin is a derivative of cisplatin, less renal toxication. Oxaliplatin or cisplatin functions a formation of bridge to block separation of DNA that is essential for DNA replication. The bridge formation also functions to block creation of RNA.

Chemotherapeutic effect is evaluated using disease-free survival and overall survival. For cases with colon cancer which is surgically resected, three-year disease-free survival was reported 70% and five-year overall survival, 77.6% (2). Meanwhile, in cases with unresectable colon cancer, progression-free median survival is reported to be 9.3 months and overall mean survival, 21.4 months (2). Bevacizumab is antibody for VEGF (vascular endothelial growth factor) that is produced for new vessel formation by cancer itself. VEGF is necessary for tumor growth (3-6). Administration of Bz plays a role to inhibit tumor proliferation. It is reported that VEGF repress growth of dendritic cells (3-6). Then, as an additional effect, Bz might contribute to activate immune response.

Our case with massive colon cancer associated with liver cancer received chemotherapy of XELOX and Bz after colon surgical resection, inducing partial response for metastatic liver cancer six months later, indicative of progression free and surviving. Meanwhile, liver hemangioma associated with metastatic liver cancer remains no change in size after chemotherapy.

【Summary】

We presented an eighty-year-old male for left flank pain. Massive ascending colon cancer with metastatic liver cancer is depicted on CT. He received surgical resection of colon cancer and chemotherapy using XELOX and Bevacizumab, leading partial regression six months later. It is borne in mind that Xeloda, capecitabine becomes 5FU, a derivative of Uracil that is a precursor of thymidine of DNA and a nucleotide of RNA, inhibit production of DNA and RNA. Oxaliplatin with less side effect of renal toxicity works formation of bridge between double spirals of DNA, inducing to inhibit DNA replication and RNA production. Bevacizumab, antibody for VEGF that is secreted by cancer for new vessels formation and for dendritic cells ill-maturation, inhibit tumor growth and enhance immune response.

【References】

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