

中文題目： 結腸癌病人使用 5-fluorouracil 化療後發生嚴重乳酸中毒與高血氨性腦病變：一病例報告

英文題目： Severe Lactic Acidosis and Hyperammonemic Encephalopathy Following 5-Fluorouracil Chemotherapy in a Colon Cancer Patient: A Case Report

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Background :

5-fluorouracil is one of the most frequently used antioncogenic and cytostatic drug in digestive oncology. It may cause severe adverse events, such as encephalopathy, possibly based on hyperammoniemia, and may lead to coma. The patients may develop severe multisystem failure with encephalopathy, lactic acidosis, vegetative instability and neuropathy. We report a case of hyperammonemic encephalopathy induced by 5-fluorouracil in a patient post chemotherapy for colon cancer.

Case Report :

This 73-year-old man of diabetes mellitus and chronic kidney disease presented with bloody stool for 2 months. The colonoscopy showed a descending colon tumor on 103-6-13. Abdomen CT showed descending colon carcinoma. The colon biopsy confirmed adenocarcinoma. He received laparoscopic left hemicolectomy with side to side anastomosis on 103-7-11. The pathology showed T3 lesion without lymph nodes metastasis. This time, he was admitted for the first cycle of adjuvant chemotherapy on 103-8-4. He received chemotherapy with De gramont included calcifolinat and 5-fluoroura. Sudden onset of dyspnea and respiratory failure happened on 103-8-6. Emergent endotracheal tube insertion with mechanical ventilator was done. Then he was admitted to intensive care unit (ICU). Initial hemodynamic support with fluid resuscitation and infusion of vasopressor were used. Tazocin was added. Lactic acidosis (29.0 mmole/L) with severe metabolic acidosis (pH, 7.189; PCO₂, 17.3 mmHg; PO₂, 218 mmHg; HCO₃, 6.7 mmol/L; Base Excess, -18.8 mmol/L) occurred. BUN (34 mg/dL), creatinine (2.85 mg/dL) and hyperammonemia (1092 umol/L) with hepatic encephalopathy were found. Lactulose retention enema and emergent hemodialysis were done. After hemodialysis, data were ammonia, 27 umol/L and lactate, 4.4 mmole/L. Blood gas analysis revealed pH, 7.479; PCO₂, 28.3 mmHg; PO₂, 115.7 mmHg; HCO₃, 21.2 mmol/L; Base Excess, -1.0 mmol/L on 103-8-7. He underwent successful weaning from ventilator on 103-8-12. He was transfer to general ward. As the clinical condition was stable, he was discharged on 103-8-18.

Conclusion:

Alteration of the pharmacokinetics of 5-fluorouracil and its catabolites as a result of renal dysfunction might augment systemic toxicity. This case may remind ICU physicians that acute lactic acidosis and hyperammonemic encephalopathy following 5-fluorouracil therapy were associated with 5-fluorouracil toxicity.