

中文題目：使用去鐵胺病人引起電腦斷層血管攝影假影

英文題目：Artifact of Computed Tomography Angiography in the Patient use Deferoxamine

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Introduction: Acute gastrointestinal bleeding is a common disease in hospital course and can have a high morbidity and mortality if not treated rapidly. Computed tomography angiography (CTA) is a promising initial test for acute GI bleeding as it is universally available, can be performed rapidly and may provide diagnostic information to guide management. However, the use of medications will cause unexpected hyperdense intraluminal contents and decrease the sensitivity of the test. In previous studies, drugs contain mineral contents such as calcium, aluminium and iron were the main culprit for artifacts of CTA. Nevertheless, deferoxamine related artifact has not been discussed before. This report highlights that the deferoxamine therapy will causes artifact of computed tomography angiography and mask the extravasation of contrast medium into the bowel lumen which arise the difficulties on diagnosis. Discontinue deferoxamine before CTA or consider other examination, for example, tagged RBC scan may be beneficial to the patient for preventing the artifact.

Case Presentation: An 81 years-old Taiwanese female has history of chronic Hepatitis B infection. She admitted to our ward on 2019/04/28 due to anemia and received bone marrow examination which revealed Myelodysplastic syndrome (MDS). She was followed up at our Outpatient Department under treatment with danazol 200mg twice daily since then. However, MDS with acute leukemia transformation was noted and started chemotherapy. Due to frequent transfusion, iron overload was found since 2020/11. Hence, the patient received regular chemotherapy, blood transfusion and iron chelation every month. On 2021/08/10, she presented to our emergency room due to general weakness, dizziness, and dyspnea for days. Under impression of severe anemia, she admitted to our ward. During the admission, we started transfusion since 2021/08/10 and prescribed DESFERAL(Deferoxamine) 1000mg QD in N/S drip over 12 hours (eGFR:25.11) for secondary iron overload due to heavy blood transfusion. Empirical antibiotic treatment with Oxacillin 2gram every 6 hours and change dressing once daily for cellulitis over left lower leg. (3 wounds).

Poor appetite, bad spirit, fatigue and general weakness were noted. Hypokalemia was noted, we supplied the potassium in both intravenous and oral form. Fever, pyuria and bilateral lower lobes infiltration were found, hence, we consulted INF specialist for antibiotic treatment, and TAPIMYCIN 4.5grams every 8 hours was prescribed. 2021/08/14-2021/08/20, bloody stool was still noted. We arranged colonoscopy for her due to suspicion of lower GI bleeding. However, her vital sign is unstable, Gastroenterologist suggested postponed the colonoscopy and Computed Tomography Angiography (CTA) may be an option. We arranged CTA on 2021/08/20 night. However, due to retention of hyperattenuated material in the whole gastrointestinal tract, the extravasation of contrast medium from bleeding site was obscured. We screened the medication of the patient. The patient didn't take drugs contain mineral contents such as calcium, aluminium and iron were the main culprit for artifacts of CTA.

Discussion: Computed tomography angiography (CTA) is a promising initial test for acute GI bleeding as it is universally available, can be performed rapidly and may provide diagnostic information to guide management. However, the use of medications will cause unexpected hyperdense intraluminal contents and decrease the sensitivity of the test. In previous studies, drugs contain mineral contents such as calcium, aluminium and iron were the main culprit for artifacts of CTA. Nevertheless, deferoxamine related artifact has not been discussed before. The patient didn't take drugs contain mineral contents such as calcium, aluminium and iron were the main culprit for artifacts of CTA. In the previous study, nightly deferoxamine infusion should result in 20 to 50 mg/day (600 to 1500 mg/month) of iron loss in the urine and stool.

Conclusion: To our knowledge, this is the first reported case of deferoxamine related artifact. This report highlights that the deferoxamine therapy will causes artifact of computed tomography angiography and mask the extravasation of contrast medium into the bowel lumen which arise the difficulties on diagnosis. Discontinue deferoxamine before CTA or consider other examination, for example, tagged RBC scan may be beneficial to the patient for preventing the artifact.