los estudiantes de Medicina, del conocimiento del concepto de ME y la actitud hacia la donación de órganos.

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Does food ingestion during hemodialysis lead to change in hepatic oxygenation?

La ingestión de alimentos durante la hemodiálisis, ¿produce cambios en la oxigenación hepática?

Dear Editor,

Food ingestion during hemodialysis (HD) reportedly decreases relative changes in blood volume (%ΔBV).[1] However, the influence of intradialytic food ingestion on changes in systemic tissue oxygenation remains unclear. Here we report a case of deteriorated hepatic oxygenation with food ingestion during HD despite cerebral oxygenation being well maintained. A 68-year-old woman received HD therapy three times per week due to chronic glomerulonephritis. She usually ate a meal at each HD session, after which intradialytic hypotension (IDH) sometimes occurred. Therefore, in addition to the blood pressure measurement, we monitored the %ΔBV using a BV monitor (Nikkiso, Tokyo, Japan). Furthermore, cerebral and hepatic regional oxygen saturation (rSO_2) were monitored using an INVOS 5100c oxygen saturation monitor (Covidien Japan, Tokyo, Japan) to investigate the association between changes in tissue oxygenation and food ingestion during HD with her informed consent. She ingested 100 g of rice, 200 g of side dishes, and 200 mL of water between 120 min and 150 min after HD initiation. During this monitoring session, her blood pressure did not change, while the %ΔBV decreased soon after food ingestion. In addition, prior to the decrease in %ΔBV, the hepatic rSO_2 rapidly decreased in response to food ingestion, whereas the cerebral rSO_2 was maintained until the end of HD (Fig. 1).

Intrahepatic circulation consists of two different blood supply, one is from hepatic artery and the other is from portal vein. Oxygen saturation in portal vein was low compared with that in systemic arterial circulation, including hepatic artery.[2,3] Hepatic rSO_2 are usually maintained during HD without IDH and food ingestion.[4] In addition, the deterioration of hepatic oxygenation would precede IDH onset during HD.[5] However,

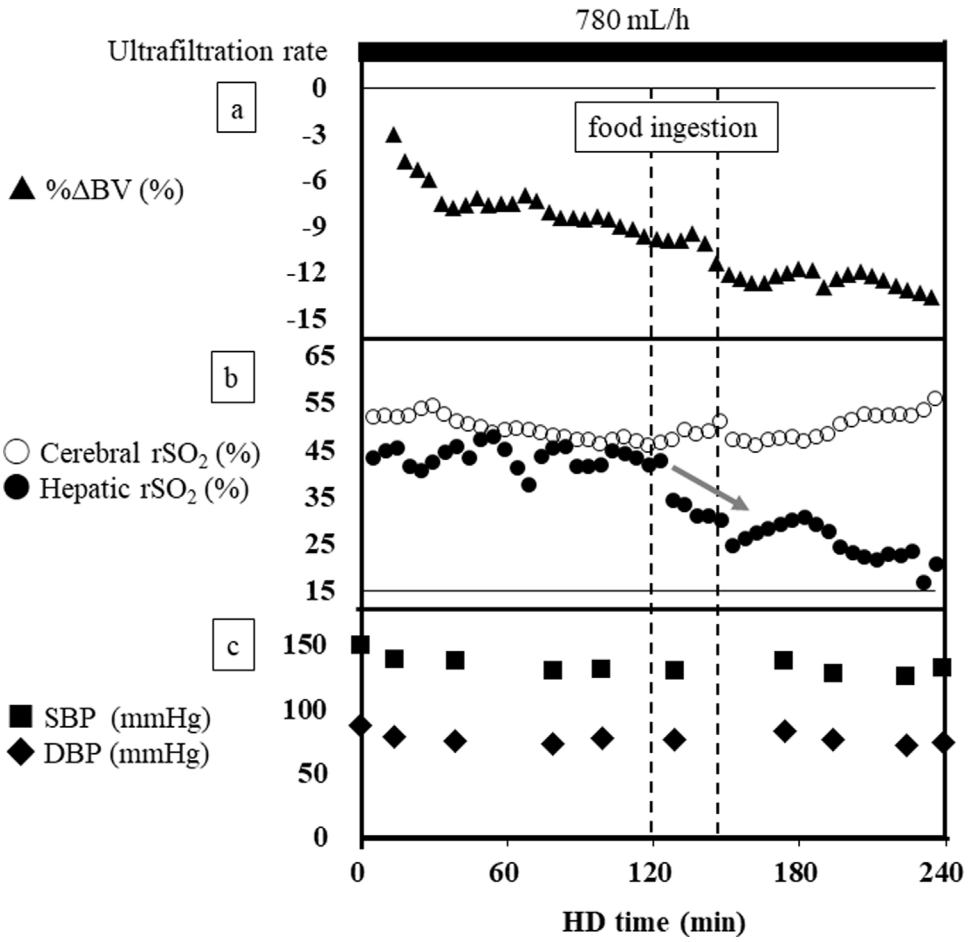

Fig. 1 – (a) Changes in %ΔBV during hemodialysis. (b) Changes in cerebral and hepatic rSO_2 during hemodialysis. Grey arrow represents the decrease in hepatic rSO_2 associated with food ingestion. (c) Changes in SBP, DBP and HR during hemodialysis. %ΔBV, relative change in blood volume; DBP, diastolic blood pressure; HR, heart rate; rSO_2, regional oxygen saturation; SBP, systolic blood pressure; UFR, ultrafiltration rate.

investigations of the influence of intradialytic food ingestion to the change in hepatic oxygenation has been limited. In this case, deterioration of hepatic oxygenation in response to food ingestion during HD were confirmed prior to the decrease in %ΔBV, and there might be possible two reasons to explain these associations. First, in animal experiments, the increase in oxygen consumption in the blood flowing through the intestine was confirmed in response to food ingestion.[6] Therefore, portal blood into the liver might decrease the oxygen saturation. Second, portal venous blood flow increased and hepatic artery blood flow decreased after food ingestion,[7] which would be associated with the regulation of a hepatic artery buffer response.[8,9] Because of the increase in portal vein blood flow (low oxygen saturation) and the decrease in hepatic arterial blood flow (high oxygen saturation),[7] hepatic rSO_2 might decrease during HD with food ingestion. In contrast to the deterioration of hepatic oxygenation associated with intradialytic food ingestion, cerebral oxygenation was maintained during HD in this case. This result may be explained by the fact that regulation of the systemic circulation usually prioritizes cerebral blood flow and oxygenation at the expense of blood flow and oxygen supply to other compartments, including hepatic circulation.[4] However, precise mechanisms regarding the association between intradialytic food ingestion and changes in systemic tissue oxygenation, including the liver, has not been elucidated and further studies are needed to clarify these associations during HD. Based on our experience, food ingestion during HD was possibly associated with the rapid deterioration of hepatic oxygenation; therefore, changes in hepatic oxygenation with food ingestion during HD should be carefully considered in the clinical setting of HD therapy.

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Conflict of interest

The authors have no conflicts of interest to declare.

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Lesiones cutáneas eritematovioláceas y ampollosas tras administración de contraste yodado en un paciente en hemodiálisis. Un caso de exantema fijo medicamentoso por contraste yodado

Erythematous-violaceous and bullous skin lesions after administration of iodinated contrast in a patient on hemodialysis. A case of fixed drug eruption due to iodinated contrast

Sr. Director:

Las reacciones adversas de hipersensibilidad no inmediata secundarias al uso de contraste yodado ocurren generalmente entre las 6 y las 72 h tras la exposición[1], siendo la manifestación más común el exantema maculopapular, la urticaria con o sin angioedema y la dermatitis de contacto. En la mayoría de los casos son erupciones agudas leves a moderadas. Las reacciones cutáneas tardías graves son poco frecuentes, pero hay casos descritos de pustulosis exantemática aguda generalizada, síndrome de DRESS, vasculitis, síndrome de Stevens-Johnson y necrólisis epidérmica tóxica[2]. El exantema fijo medicamentoso (EFM) es otra reacción de hipersensibili-