

Hemolysis and intestinal injury

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A research team from The Netherlands investigated the consequences of hemolysis for intestinal blood flow and its possible association with intestinal injury. They found that intestinal injury was caused by the so-called cell-free oxyhemoglobin, which is released from injured red blood cells during the process of hemolysis.

Hemolysis is not uncommon during cardiovascular surgery, resulting in elevated circulating levels of cell-free oxyhemoglobin (FHb). The effect of hemolysis on intestinal microcirculation and gut wall integrity is unclear.

A research article to be published on January 14, 2011 in the [World Journal of Gastroenterology](#) addresses this question. An animal model was developed with FHb plasma levels similar to those found during cardiovascular surgery. The influence of circulating FHb on intestinal microcirculation was studied using fluorescent microspheres and intestinal injury was evaluated both biochemically and histopathologically.

This is the first study to show a decreased intestinal microcirculatory [blood flow](#) during elevated levels of circulating FHb, resulting in intestinal damage. Moreover, a strong correlation between elevated circulating FHb and intestinal injury is revealed.

Therefore, circulating FHb levels should be closely monitored in clinical practice when treating these patients, who are at risk of developing gastrointestinal complications.

More information: Hanssen SJ, Lubbers T, Hodin CM, Prinzen FW, Buurman WA, Jacobs MJ. Hemolysis results in impaired intestinal microcirculation and intestinal epithelial cell injury. World J Gastroenterol 2011; 17(2): 213-218.

www.wjgnet.com/1007-9327/full/v17/i2/213.htm

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