Treating hypertriglyceridemia

In their review of hypertriglyceridemia, George Yuan and colleagues advocate "hemodynamic stabilization, cessation of all oral intake, placement of a nasogastric tube and control of metabolic disturbances" to treat triglyceride-related acute pancreatitis.[1] The authors are skeptical about the use of plasmapheresis because it provides only a transient benefit.

We use a different treatment method (heparin and insulin infusions to stimulate lipoprotein lipase activity and therefore reduce serum triglyceride levels[2]) as the first-line therapy in our hospital, as described in the following case. A 29-year-old man with an uneventful medical history was admitted to hospital because of severe abdominal pain with a clinical diagnosis of acute pancreatitis. The fasting triglyceride level was nearly 8000 mg/dL at admission. In addition to standard therapy for pancreatitis, an insulin infusion was started at 4 IU/h with glucose substitution as necessary. Low-molecular-weight heparin was also administered. Within 5 days the patient was asymptomatic and his triglyceride level had decreased to 450 mg/dL. His lipemic serum had a milky appearance at admission and a nearly normal clear appearance on day 5 (Figure 1). Case series and case reports describing the treatment of pancreatitis with heparin and insulin have been published,[3–5] but the efficacy of this treatment method has not yet been well established, presumably because of the lack of controlled trials.

Figure 1: Serum of a patient with triglyceride-related acute pancreatitis. Left: Lipemic serum before treatment with insulin and heparin. Right: Clear serum after 5 days of therapy.

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Competing interests: None declared.

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DOI:10.1503/cmaj.1070055

The review of hypertriglyceridemia by George Yuan and colleagues was quite interesting. We would like to highlight plasma exchange as another therapeutic option for this condition.[1] Plasma exchange is used to treat a broad spectrum of conditions, and it can serve either as a primary or as an adjunct therapy. Familial hypertriglyceridemia is a category I indication for plasma exchange, as defined by the American Society for Apheresis.[2] Hypercholesterolemia and hypertriglyceridemia are the most common indications for plasma exchange in European countries.[3] In some reports, plasma exchange has been found to be useful particularly in patients who are pregnant, who have severe hypertriglyceridemia, who have acute and recurrent pancreatitis with hypertriglyceridemia or who do not respond to other forms of treatment.

Plasma exchange may reduce triglyceride levels and remove circulating activated enzymes and inflammatory mediators.[4,5] We evaluated the effectiveness of plasma exchange in 7 patients with severe hypertriglyceridemia. Triglyeride and total cholesterol levels were reduced by 46.1% and 50.8%, respectively, and the patients tolerated the therapy well.[6]

Although the evidence to date is limited, plasma exchange may be used safely and effectively in patients with severe hyperlipidemia who are at risk of acute coronary events and acute pancreatitis.

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