

This case study focuses on a postmortem examination of an 84-year-old woman, hospitalized due to malnutrition and dysphagia. The left internal jugular vein was cannulated, with no post-procedural x-ray check-up of the catheter tip position. An autopsy revealed 800 ml of milky-white fluid in the left pleural cavity, raising the issue of whether the pleural effusion was of chylous or TPN origin” Zasada et al (2019).

Abstract:

Total parenteral nutrition (TPN) using a central line is an invasive and widely used procedure associated with several complications. Pleural effusion secondary to the leakage of alimentation into the pleural cavity is a rare but encountered complication of central-line TPN administration. This case study focuses on a postmortem examination of an 84-year-old woman, hospitalized due to malnutrition and dysphagia. The left internal jugular vein was cannulated, with no post-procedural x-ray check-up of the catheter tip position. An autopsy revealed 800 ml of milky-white fluid in the left pleural cavity, raising the issue of whether the pleural effusion was of chylous or TPN origin. The aim of this case study was to describe the postmortem diagnostic approach of the fluid analysis. Suspecting chylothorax, we first analyzed the triglyceride (TG) levels in the fluid, which, according to the literature, is the best parameter to detect chyle when lipoprotein electrophoresis (chylomicron %) is unavailable. Biochemistry showed increased levels of TG, which can be found in both chylous and TPN fluid. We then added glucose and potassium to the biochemical analysis, again showing increased levels at 46 mmol/L and 22 mmol/L, respectively. We had no information about the given TPN, and thus, comparing the final chemical results with the TPN composition was impossible. The presence of increased levels of triglycerides, glucose, and potassium in the white fluid more strongly resembled a standard TPN than chyle. Hence, by using these three measurements, we concluded that the milky-white fluid was a leakage of TPN.

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### Reference:

Zasada, I.A., Banner, J. and Bugge, A. (2019) "Nutrition or no nutrition?": Chylothorax or leakage of total parenteral nutrition? *Forensic Science, Medicine, and Pathology*. April 22nd. . doi: 10.1007/s12024-019-00113-6.