

# Studio istopatologico delle alterazioni epatiche da nutrizione parenterale totale (NPT)

M. DI PAOLO<sup>1</sup>, D. LUCHINI<sup>2</sup>, M.T. DEL VECCHIO<sup>3</sup>, S. SCOLLETTA<sup>4</sup>, P. GIOMARELLI<sup>4</sup>

<sup>1</sup>Sezione Dipartimentale di Medicina Legale, Università degli Studi di Pisa

<sup>2</sup>Dipartimento di Scienze Medico-Legale, Università degli Studi di Siena

<sup>3</sup>Dipartimento di Patologia Umana e Oncologia, Sezione di Anatomia Patologica, Università degli Studi di Siena

<sup>4</sup>Istituto di Chirurgia Toracica e Cardiovascolare, Università degli Studi di Siena

## Total parenteral nutrition (TPN)-induced histopathologic hepatic abnormalities

**ABSTRACT:** Nowadays, the total parenteral nutrition (TPN) is widely used in intensive care unit (ICU) to provide a complete nutrition for patients with impossible oral food intake. The liver complications of this therapy is widely reported and the etiology is multifactorial, in particular it seems important the role of the hypercaloric infusion (especially with excess glucose). The hepatic injuries reported in literature are steatosis, steatoepatitis, cholestasis, cholelithiasis. The necrosis is considered to be a consequence of preexisting hepatic alterations. In order to analyze the liver complications of TPN we considered 16 autopsied cases with an hospitalization of more than 1 week in ICU and without preexisting hepatic injuries or multi organic failure syndrome (MOFS): eight received TPN, the control group was treated with enteral nutrition. The clinical history was analyzed considering some of the scores usually used in ICU (APACHE II, SIRS, SOFA, Goris). Histologically we analyzed the presence of macro and microvascular steatosis, cholestasis, centrilobular or massive liver cell necrosis, perivenular sinusoid dilatation, portal inflammation, intranuclear glycogen accumulation, lipofuscin accumulation in liver cell and in Kupfer cell. The results were analyzed with mono and bivariate statistic, T-student test,  $\chi^2$ , Mann-Whitney test. The results showed an increase in cholestasis, perivenular sinusoidal dilatation and liver cell necrosis, in cases with no preexisting hepatic injuries. Moreover the authors stress the medico-legal issue of choosing a therapy (the TPN) that can lead to so severe complications. (RINPE 2005; 23: 10-7)

**KEY WORDS:** Total parenteral nutrition, Enteral nutrition, Liver complications, Legal medicine

**PAROLE CHIAVE:** Nutrizione parenterale totale, Nutrizione enterale, Alterazioni epatiche, Medicina legale