

# NON-ALCOHOLIC FATTY LIVER DISEASE: CLINICO-BIOLOGICAL PARTICULARITIES

<sup>1</sup>DACIANA NICOLETA DASCĂLU, <sup>2</sup>M. DEAC

<sup>1</sup>PhD candidate "Lucian Blaga" University of Sibiu, <sup>2</sup>"Lucian Blaga" University of Sibiu

**Abstract:** Non-alcoholic fatty liver disease (NAFLD) is a disease with high frequency in the world. The main risk factors are obesity, diabetes mellitus and the metabolic syndrome. Other essential elements which contribute to the etiopathology of this disease are hyperinsulinemia, high caloric diet and genetic prevalence.(1,2) NAFLD is included in a spectrum of liver diseases characterized mainly by fatty macrovesicular degeneration occurring in the absence of significant alcohol consumption under 20-30 g pure alcohol / day or under 200g pure alcohol / week.(1,2,3) Histopathological data have shown that fatty liver is actually the pattern of a pathological ongoing process, with the possibility of evolution from simple steatosis to steatohepatitis, liver fibrosis and even non-alcoholic liver cirrhosis.(4,5)

**Keywords:** non-alcoholic fatty liver, obesity, diabetes mellitus, liver fibrosis

**Rezumat:** Hepatopatia adipoasă non-alcoolică sau ficatul gras non-alcoolic este o entitate etio-patogenică ce prezintă o prevalență în creștere în întreaga lume. Boala este produsă de factori multipli și variați care sunt dominați totuși de câteva patologii frecvente: obezitatea, diabetul zaharat de tip 2 și sindromul metabolic. Hiperinsulinismul, dieta hipercalorică și prevalența genetică sunt de asemenea elemente esențiale în producerea afecțiunii.(1, 2) Ficatul gras non-alcoolic sau hepatopatia adipoasă non-alcoolică se încadrează într-un spectru de boli hepatice caracterizate în principal prin degenerescența grăsoasă macroveziculară ce apare în lipsa consumului semnificativ de alcool, respectiv sub 20-30 g alcool pur/zi sau sub 200g alcool pur/săptămână. (1,2,3) Date histo-patologice au demonstrat că ficatul gras non-alcoolic este de fapt pattern-ul unui proces patologic continuu, având posibilitatea evoluției de la simpla steatoză hepatică la steatohepatita non-alcoolică și chiar la ciroza hepatică.(4,5)

**Cuvinte cheie:** hepatopatie adipoasă non-alcoolică, obezitate, diabet zaharat, fibroză hepatică

## PURPOSE

Considering the major importance of non-alcoholic fatty liver disease (NAFLD) as a public health issue, the aim of this paper is to find out the clinico-biological correlations and especially the particularities of this disease in our geographical area.

## MATERIAL AND METHODS

We realized a prospective study on 80 patients presenting ultrasonographic aspect of hepatic steatosis, without significant alcohol use and with negative viral hepatitis tests.

We followed the degree of hepatic steatosis, comorbidities related with NAFLD (insulinoreistance, diabetes mellitus, metabolic syndrome, obesity) and we tried to underline possible correlations between clinical and paraclinical examinations.

We selected patients from Internal medicine, Diabetes, Endocrinology and Cardiology wards of Clinical Academic County Hospital of Sibiu.

Inclusion criteria: patients with echographic aspect of hepatic steatosis, without significant alcohol consumption (under 20g pure alcohol/day), without viral hepatitis (VHB or VHC) or other chronic liver disease (like hemochromatosis ).

All the patients filled one anonymous questionnaire about their age, gender, life style, diet, life behavior, smoking, alcohol consumption, other diseases, actual symptoms (asthenia, dyspepsia, nausea), present medication.

## RESULTS AND DISCUSSIONS

- There are more feminine gender subjects, living in the city
- The main symptoms presents in over 70% were asthenia, fatigability and abdominal bloating
- Over 2/3 of patients recognize sedentarism as being of high prevalence in their life style and only 16% have daily exercise
- Over 1/3 of patients recognize a high fat diet
- More than 50% present at least two components of metabolic syndrome (diabetes mellitus, high blood pressure, hypertriglyceridemia)
- Many subjects present cardio-vascular comorbidities (high blood pressure, cardiac arterial disease), so they have a high risk of cardiac death
- The median values for body mass index and waist index are very high comparative with normal values, over 60% of patients being obese.
- Median values for TNF $\alpha$ , PCR, IL6 and IL8 were higher than normal, significant for their participation

## CLINICAL ASPECTS

---

in the inflammation process that induce and sustain NAFLD

- Non-invasive methods of evaluation of liver fibrosis using available formulas differ from case to case but they all confirm cases of advanced liver fibrosis and even patients with cirrhosis.

These findings confirm data from literature according to which NAFLD is a disease more commonly encountered in the adult population than originally thought, being accompanied by multiple co-morbidities. Metabolic syndrome is the most important constellation of cardiovascular disease and metabolic problems encountered in these patients. The cardio-vascular risk of subjects with NAFLD is extremely large and often neglected by doctors who are generally concerned only about their digestive pathology. In response, many patients with cardio-vascular disease are neglected concerning the existence of other associated pathologies which reiterates the assertion that non-alcoholic fatty liver disease may be considered the liver component part of the metabolic syndrome.

### REFERENCES

1. Oproiu C, Oproiu I, Alexandru C, Manuc M. Ficatul gras non-alcoolic. Date la zi: 2003; Revista pentru educație medicală continuă Gastroenterologie. 2003;(2):125-131.
2. Grigorescu M, Rusu Mihaela. Non-alcoholic Fatty Liver Disease Component of the Metabolic Syndrome- prevalence, profile of the risk factors. Romanian Journal of Hepatology 1 (Suppl.1):13-16
3. Iobagiu S. Steatohepatita non-alcoolică; Esențialul în Gastroenterologie și Hepatologie, pag. 325-329, sub redacția prof. dr. Oliviu Pascu; Editura Național, București, 2003.
4. Adams A. Leon, Angulo Paulo, Lindor D. Keith. Nonalcoholic Fatty Liver Disease; Canadian Medical Association Journal, 172;(7):899.
5. Leuschner U. Non-alcoholic Steatohepatitis (NASH)- Dr. Falk Pharma GmbH, 5<sup>th</sup> edition 2006.