# HEPATITIS B VIRUS AND HEPATITIS C VIRUS EPIDEMIOLOGY AMONG NEWLY DIAGNOSED

# NON-HODGKIN LYMPHOMA PATIENTS IN REAL WORLD ANALYSIS (NIHIL)







Lucie Dlouha1, Andrea Janikova2, David Belada3, Heidi Mocikova4, Vit Prochazka5, Juraj Duras6, Katerina Benesova1, Jana Salkova1, Alice Sykorova3, Prokop Vodicka1, Petra Blahovcova1, 9, Petr Urbanek10, Marek Trneny1

1First Department of Medicine, Charles University and General University and University and Oncology, Masaryk University and University and University and University and Oncology, Masaryk University and University an University Hospital Hradec Kralove, 4Department of Internal Medicine, Charles University and University and University of Medicine and Dentistry, Palacky University and University Hospital Olomouc, 6Department of Hemato-Oncology, Faculty of Medicine, Charles University and University Hospital Motol, Prague, 8Department of Oncology, Hospital Ceske Budejovice, Ceske Budejovice, Ceske Budejovice, Ceske Budejovice, Ceske Budejovice, Czech Republic

#### Introduction:

- The prevalence of positive anti-HCV antibodies (anti-HCV+) in the Czech Republic was determined as 0.2% in 2001 and 1.67% in 2015
- The prevalence of HBsAg positivity (HBsAg+) was 0.56% in the Czech population in 2001, the prevalence of HBsAg+ according to another study in 2013 was only 0.06%

## Aim:

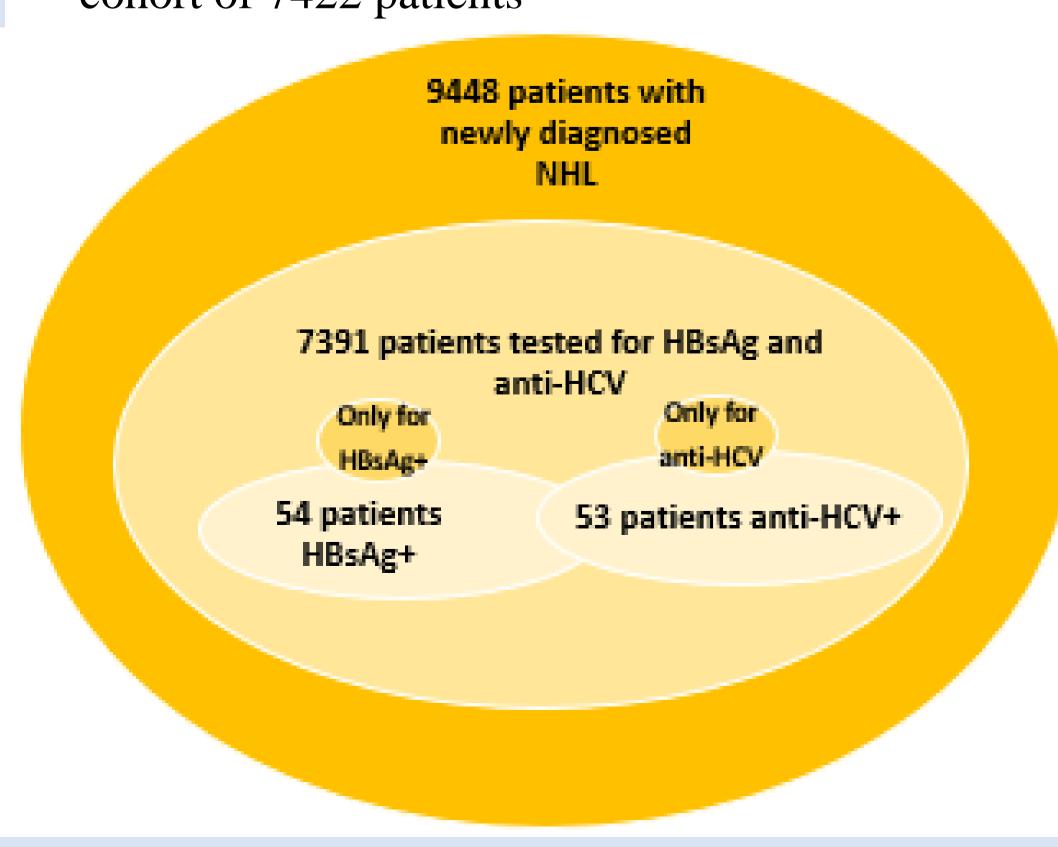
• The aim of our study was to determine an existence of a relationship between hepatitis B, hepatitis C and lymphomas

#### Methods:

- The patient's population consisted of 9448 patients with newly diagnosed Non-Hodgkin lymphoma from NiHiL project (NCT03199066) between years 2010-2018
- The diagnosis was based on the WHO classification of 2008
- The patient sample corresponds to 7923 (84%) patients tested for HBsAg in total and for anti-HCV antibodies to 7422 (78%) patients in total

#### **Results:**

- There were 54 patients HBsAg+ (0.7%) and 7869 patients HBsAg negative (HBsAg-) in the cohort of 7923 patients
- There were 53 patients anti-HCV+ (0.7%) and 7369 patients anti-HCV negative (anti-HCV-) in the cohort of 7422 patients



#### **Results:**

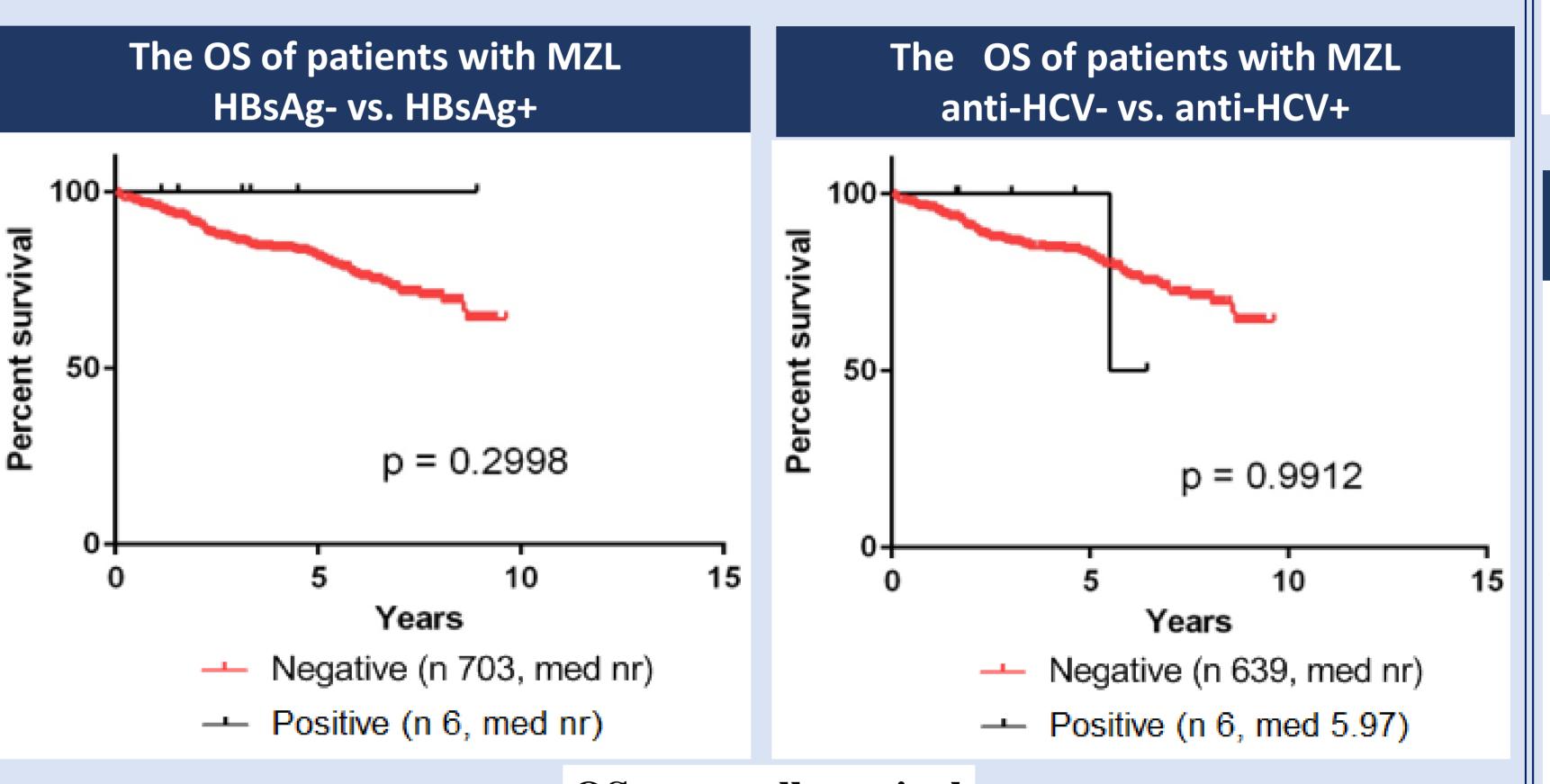
#### Lymphoma subgroups:

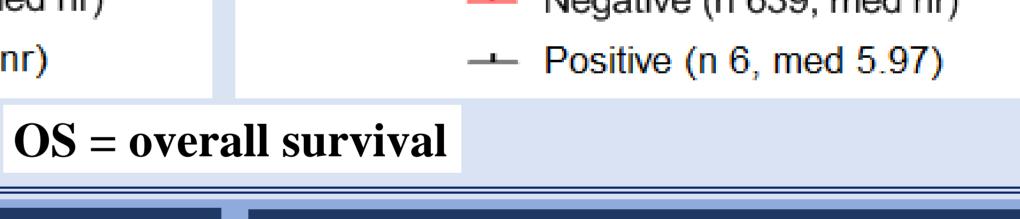
• The main subgroups in the cohort of the patients tested for HBsAg and anti-HCV were diffuse large B-cell lymphoma (DLBCL) in 40%, follicular lymphoma (FL) in 20%, mantle cell lymphoma (MCL) in 9% and marginal zone lymphoma (MZL) in 10% and 9% respectively

| Lymphoma subgroups    | HBsAg-<br>(n 7630) | HBsAg+<br>(n 52) | anti-HCV-<br>(n 7156) | anti-HCV+<br>(n 53) |
|-----------------------|--------------------|------------------|-----------------------|---------------------|
| DLBCL                 | 3144               | 22               | 2927                  | 28                  |
| FL                    | 1545               | 11               | 1485                  | 7                   |
| MZL                   | 751                | 7                | 688                   | 6                   |
| MCL                   | 694                | 1                | 665                   | 6                   |
| B-NHL indolent        | 413                | 3                | 379                   | 0                   |
| Peripheral T-lymphoma | 379                | 0                | 351                   | 4                   |
| B-NHL agressive       | 252                | 3                | 236                   | 1                   |
| B-NHL unspecified     | 236                | 4                | 223                   | 1                   |
| T-NHL unspecified     | 216                | 1                | 202                   | 0                   |

## Marginal zone lymphoma:

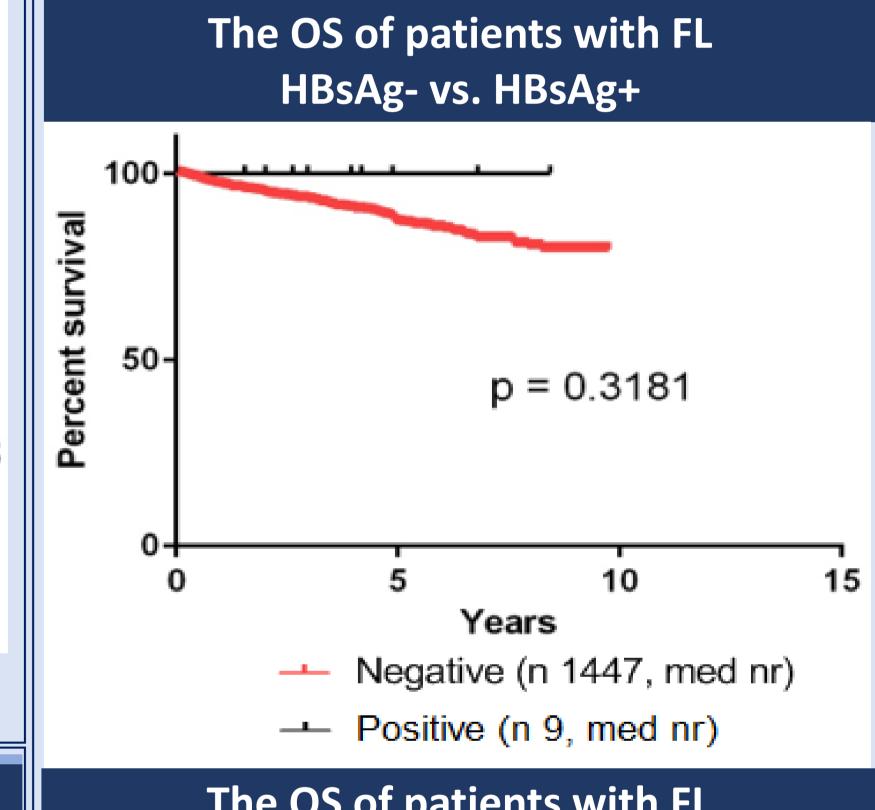
- In the group of patients with newly diagnosed MZL there were 0.9% HBsAg+ and 0.8% anti-HCV+
- Significant differences in clinical characteristics of anti-HCV- and anti-HCV+ patients with MZL were in sex (57% female and 100% female respectively, P<0.01)

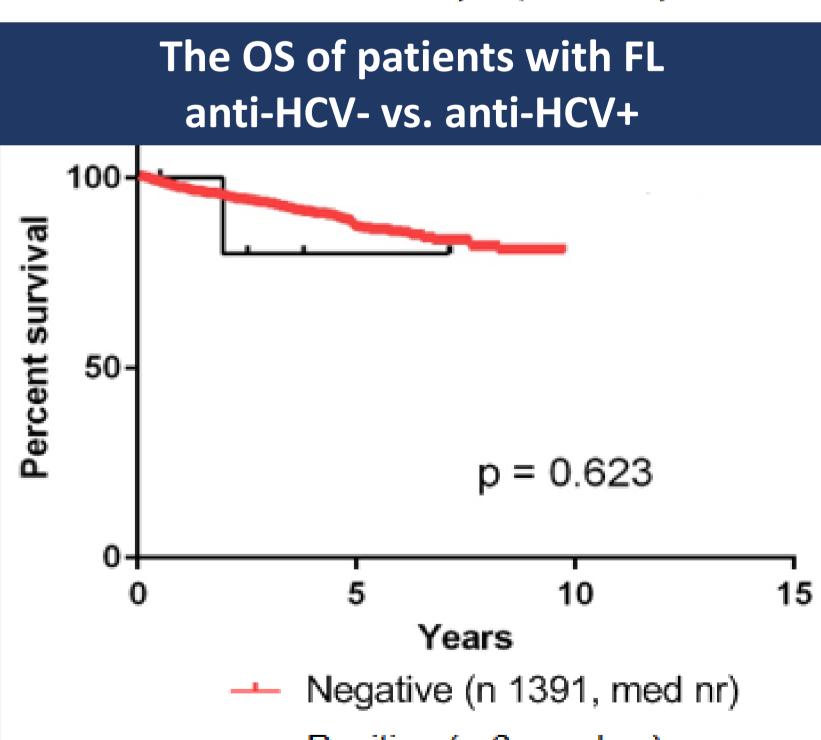




# Follicular lymphoma

- In the group of patients with newly diagnosed FL there were 0.7% HBsAg+ and 0.4% anti-HCV+
- Significant differences in clinical characteristics of patients with FL anti-HCV- vs. anti-HCV+ were in median age (62 years vs. 51 years, P<0.046)



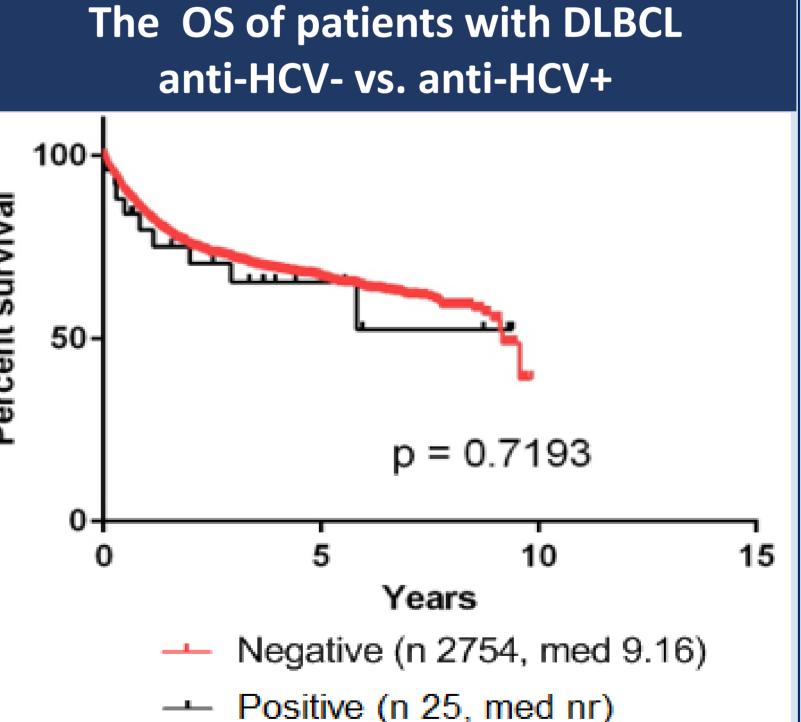


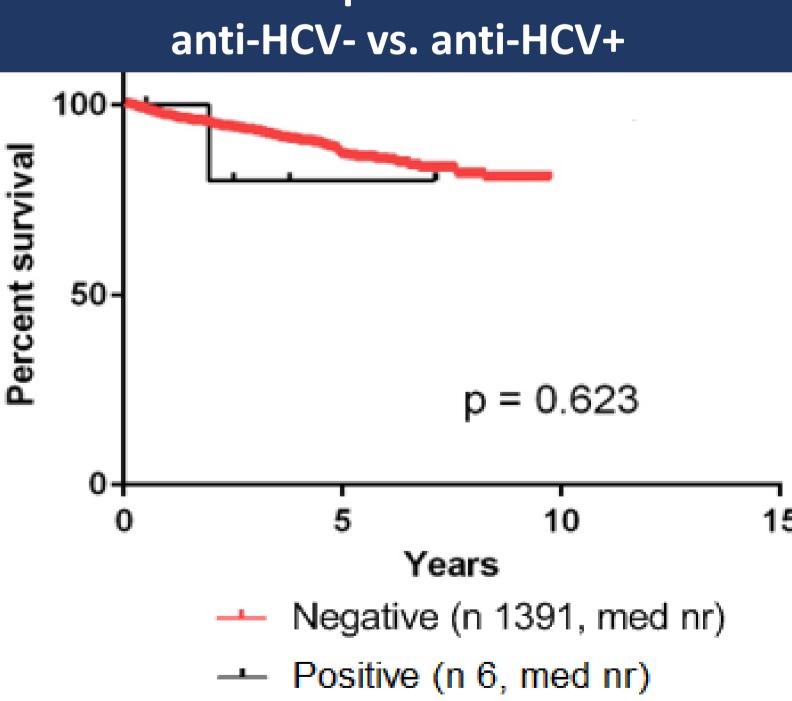
### Diffuse large B-cell lymphoma

- In the cohort of patients with newly diagnosed DLBCL there were 0.7% HBsAg+ and 1.0% anti-HCV+
- Significant differences in clinical characteristics of patients HBsAg- vs. HBsAg+:
  - median age (66 years vs. 57 years, P<0.0004)
  - an enlargement of the spleen (16.3% vs. 54.6%, P<0.0001)
- Significant differences in clinical characteristics of patients anti-HCV- and anti-HCV+:
  - an enlargement of the spleen (16.5% vs. 37%, P < 0.004)

# HBsAg- vs. HBsAg+ p = 0.2313Years Negative (n 2963, med 9.56) Positive (n 19, med nr)

The OS of patients with DLBCL





#### **Conslusion:**

There were no significant differences found in the overall survival or the progression free survival in patients with major subtypes of lymphoma anti-HCV- vs. anti-HCV+ nor HBsAg- vs. HBsAg+ patients.

# **References:**

1) Němeček V, Částková J, Fritz P, Linhartová A, Švandová E, Šrámová H, Kříž B. The 2001 serological survey in the Czech Republic--viral hepatitis. Cent Eur J Public Health. 2003 Dec;11 Suppl:S54-61. PubMed PMID: 15080261. 2) Chlíbek R, Smetana J, Šošovičková R, Gál P, Dítě P, Štěpánová V, Plíškova L, Plíšekk S. Prevalence of hepatitis C virus in adult population in the Czech Republic - time for birth cohort screening. PLoS One. 2017;12(4):e0175525. doi: 10.1371/journal.pone.0175525. eCollection 2017. PubMed PMID: 28406947; PubMed Central PMCID: PMC5391198

3) Lexová P, Částková J, Kynčl J, Manďáková Z, Němeček V. Výskyt virových hepatitid v České republice – rok 2015 a trendy v posledních deseti letech (Viral hepatitides in the Czech Republic in 2015 and trends in the last decade. Zprávy CEM (SZÚ, Praha) 2016, 25 (6-7): 225-230