

ORAL PRESENTATION

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# Inflammatory patterns in patients with chronic hepatitis C

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## Background

In patients with chronic hepatitis C (CHC), liver fibrosis is a complex process, not completely understood, resulting from the activation of hepatic stellate cells and a pro-inflammatory status.

We aimed to evaluate the inflammation patterns in patients with CHC and the correlations between the inflammatory biomarkers and liver fibrosis.

## Methods

We performed a cross-sectional study on patients with CHC, in a tertiary-care hospital in November 2011 – April 2012. We staged liver fibrosis using FibroMax (BioPredictive) and we used CobasTaqman (Roche) for HCV-RNA quantification. Patients were also evaluated by ALT, platelets, erythrocyte sedimentation rate (ESR), fibrinogen, C-reactive protein (CRP) and tumor necrosis factor alpha (TNF $\alpha$ ) plasma levels. For TNF $\alpha$  quantification we used Kamiya Biomedical Company ELISA kits.

## Results

We enrolled 76 patients with CHC (sex ratio M/F 0.6/1, median age 51 [44-58] years). According to the FibroMax evaluation, most of the patients had F0 fibrosis (25%, n=19), F2 fibrosis (42%, n=32) and F4 fibrosis (16%, n=12) respectively. The median HCV-RNA was 5 [5-5.75] log<sub>10</sub>. History of previous HCV-therapy with pegIFN and ribavirin was recorded in 75% (n=57) of patients and half of them had a sustained virological response.

The inflammatory biomarkers displayed the following patterns: median ESR 12 [8-22.5] mm/h, median fibrinogen

295 [254-343] mg/dL, median CRP 0.55 [0.2-1.5] mg/L, median TNF $\alpha$  6.38 [4.75-9.33] pg/mL.

Comparing the patients without fibrosis (F0) with the patients with fibrosis (F1-F4), we found a significant difference between TNF $\alpha$  values (patients with F0 - median TNF $\alpha$  5.5 [4.0-7.1] pg/mL; patients with F1-F4 – median TNF $\alpha$  7.3 [5.0-10.6]; p<0.001). In patients with fibrosis, we found a moderate correlation between TNF $\alpha$  values and fibrosis score, according to the FibroMax score (rho=0.4, p=0.002) and between TNF $\alpha$  values and ALT (rho=0.43, p=0.001).

## Conclusion

In patients with CHC, liver fibrosis is correlated with the levels of TNF $\alpha$ , as a biomarker of systemic inflammation.

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