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## HCV in Hemophilia patients – Treatment Results in Kyiv, Ukraine

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**Background:** Hemophilia increases the risk of infection with hepatitis C virus (HCV) due to contaminated or unheated blood products. And the degree of liver dysfunction mainly affects the prognosis of HCV-infected hemophilia patients. The advent of safe and potent regimens of direct antiviral agents (DAA) has revolutionized therapy of HCV in patients with hemophilia and make possible the elimination of infection in these populations. There are about 180 registered patients with hemophilia in Kyiv, and about 90-98% of them infected with HCV.

**Materials and Methods:** This report reviews the response to DAA therapy in patients treated at Infectious Diseases Department of O.O. Bogomolets National Medical University. We observed 11 patients with chronic hepatitis C and hemophilia A, mean age was 37,8±5,6y. All of them were positive for HCV RNA, four of them had elevated of ALT/AST levels, and two of them was diagnosed liver cirrhosis. Current HCV RNA genotypes among hemophilia patients were 1b (8 patients) and 3a (3 patients).

**Results:** All patients with 1b genotype (two of them was diagnosed liver cirrhosis, stage A Child-Pough) got antiviral treatment with SOF/LED (and Ribavirin for cirrhosis), and SOF/VEL– for 3a genotype during 12 weeks. During the treatment no clinically significant adverse events were not observed. Just general weakness in cirrhotic patient was present also this patient had moderate anemia, that was connected with ribavirin and its dose was reduced. Three patients had significant joints bleeding episodes during the treatment. All patients demonstrated biochemical response and eight of them had rapid virological response at 4-th week of treatment. And sustained virological response was also achieved by these patients.

**Conclusions:** HCV-infection is the dominant complication of substitution therapy in patients with

hemophilia and the cause of death due to end-stage liver disease. But there are not enough clinical studies of treatment of these patients. We introduced our experience, that showed good results – all 11 patients achieved sustained virological response. There are substantial clinical benefits of this treatment, such as oral administrations of DAA and no significant adverse events. But new episodes of bleeding and blood transfusions increase the risk of new infection of blood borne diseases in hemophilia patients.

So, our experience of successful treatment of HCV in patients with hemophilia show that the recommendations of treatment of non-hemophilia-related HCV can be extrapolated to the hemophilia scenario.

Micro-elimination of HCV-infection in hemophilia patients is not only decrease death level due to end-stage of liver disease in these patients, but also is one of significant part of global WHO strategy of eliminating HCV by 2030. One of key target for countries worldwide is to reduce new HCV cases by 80%.