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## **PULSED HIGH VOLTAGE DISCHARGE TECHNOLOGY AS A NEW METHOD FOR KILLING HEPATITIS C VIRUS (HCV) CELLS**

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### **Abstract**

Pulsed high voltage discharge technology is a newly developed method for knock out viruses in blood with various electrohydraulic discharge reactors. The aim of this study is to investigate the effect of an electrohydraulic discharge treatment system on Hepatitis C virus (HCV) behaviour. The electrohydraulic discharge (EHD) reactor consist of high voltage point discharge electrode above blood surface and cylindrical ground copper electrode containing the blood (in the same time act as the vessel reactor). The EHD could produce both arc discharges in gas and liquid phases. The high energy plasma arc produces a pressure shock wave, electromagnetic radiations, ozone and free radicals. Virus assay, has shown that the number survivor viruses after treatment by 10 msec pulse discharge  $N = 5.3 \times 10^6$  Copy/mL versus the initial number of viable viruses in the control sample before treatment ( $N_0$ ) = 2000 Copy/ml which translates to log increment (i.e. damaging and disintegrating) of about 3.2.

*Key words:* electrohydraulic, discharge, shock wave, plasma, free radicals, reactor

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