

4<sup>th</sup> International Conference on

## HEPATOLOGY

April 27-28, 2017 Dubai, UAE

**Bilirubin nanoparticles as nanomedicine for liver fibrosis therapy**Poilil Surendran Suchithra<sup>1</sup>, Reju George Thomas<sup>1</sup>, Sejy Lee<sup>1</sup>, Sangyong Jon<sup>2</sup> and Yong Yeon Jeong<sup>1</sup><sup>1</sup>Chonnam National University Medical School, Korea<sup>2</sup>Korea Advanced Institute of Science and Technology, Korea

**B**ilirubin is hydrophobic in nature and polyethylene glycol (PEG; molecular weight, 2,000) was covalently attached to this compound via a stable amide bond resulting in PEGylated bilirubin (PEG-BR). PEG-BR is found to have ability to undergo a solubility switch from hydrophobic to hydrophilic in response to intrinsic ROS. PEG-BR is a novel nanovesicle system which is studied for its multi-stimuli-responsive mechanism utilized as ROS/drug-delivery carriers. Advanced liver fibrosis is a condition characterized by ROS stress and metabolic effects in hepatocytes. In our study, we use PEG-BR as a ROS quenching, anti-inflammatory agent which also have ability to load hydrophobic or hydrophilic drug against progression of fibrosis. We have developed liver fibrosis model in C3H/HeN mice by administering thioacetamide and ethanol. PEG-BR was injected through intravenous route in 3 dosages for a period of 9 days. Finally, we analyzed hepatic histopathology and biochemical estimation, respectively. We observed a dosage dependent improvement of hepatic fibrosis and biochemical examination (AST/ALT ratio) in the PEG-BR treated group. PEG-BR nanovesicles might be useful in reduction of mice hepatic fibrosis model.

**Biography**

Poilil Surendran Suchithra has completed her MSc in Chemistry from Calicut University, India during 2011-2013. At present, she is pursuing her PhD under Prof. Yong Yeon Jeong developing hepatitis mice model therapy using nanoparticle as well as stem cell therapy and conducting pre-clinical testing at Clinical Vaccine R&D Centre of Chonnam National University Hwasun Hospital, South Korea.

9pssuchithra@gmail.com

**Notes:**