**Regenerative Treatment Strategies for Spinal Diseases**

Inbo Han

 Department of Neurosurgery, CHA university, CHA Bundang Medical Center, Seongnam-si 13448, Republic of Korea; hanib@cha.ac.kr

**Abstract:**

The spine is one of the most important parts of our body. Our spine is very important to good health. Intractable spinal diseases that cause spinal pain include intervertebral disc degeneration, spinal cord injury, and pseudoarthrosis after spinal fusion surgery. In this presentation, I would like to introduce three regenerative treatment strategies for chronic back pain caused by intervertebral disc degeneration, spinal cord injury, and pseudoarthrosis after spinal fusion surgery. Spinal Cord Injury: developing therapeutic efficacy-potentiated extracellular nanovesicles, Chronic low back pain due to intervertebral disc degeneration; priming MSCs with matrilin-3 and spheroid formation, and pseudoarthrosis; microchannel collagen/hydroxyapatite scaffold.