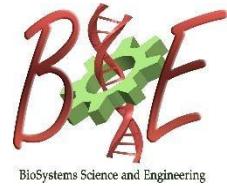




Indian Institute of Science
Centre for BioSystems Science and Engineering
Seminar



At 4 PM on 6th August, 2018 (Monday)
MRDG seminar hall, 1st Floor Biological Sciences Building

Biomaterials for Orthopedic Applications

Dr. K V Menon
Sparsh Hospital

Abstract

In 1994, we started the collaborative research programme with the Sree Chitra Tirunal Institute for Medical Sciences and Technology in Trivandrum. The project was envisaged in 3 broad stages: development and optimization of scaffolds for bone growth; combination of growth factors and scaffolds; and combination of engineered cells and scaffolds and growth factors. Each stage would encompass the development, characterization, optimization of mechanical and biological properties and animal and human trials. In the first phase, hydroxyapatite and bioactive glass were developed along with an optimized composite of the 2 ceramics. After animal trials, various human trials were conducted and the results published. As a by-product, drug elution studies were also undertaken and the results in human subjects were evaluated. In the second phase, scaffold and growth factors were tested in animals and humans. Lastly the combination of engineered cells with scaffolding and growth factors were developed and tested in the laboratory as well as in animal models. Limited human trials were also conducted. Ethical Committee approval has been obtained for further elaborate human studies and the results are awaited.

About the Speaker

Dr. K Venugopal Menon graduated from the Armed Forces Medical College in India in 1979. After a 5 year stint in the Indian Army Medical Corps, he took his Masters degree in Orthopaedic Surgery from the same institution. During this period, he had the opportunity to train in the reputed Spine center at Military Hospital, Kirkee, Pune. He subsequently underwent training in the UK and took the MCh degree from Liverpool University in 1992. Dr Menon underwent the AO fellowship in Zurich University Hospital and also spent time at many premier Spine Centers in Europe including Edinburgh (Princess Margaret Rose hospital), St Gallen (Canton Hospital), Berck Sur Mer (Institut Calot) before he returned to India. He also holds a Masters degree in Orthopaedic Engineering from Cardiff University, UK.

Dr Menon was Chairman and Head of the Dept., & Clinical Professor at the Department of Orthopaedics and Consultant in Spine Surgery at Amrita Institute of Medical Sciences and Research Center, Kochi, India. He was till recently Sr. Consultant in Orthopaedics and Spine Surgery at Khoula Hospital under the Ministry of Health in the Sultanate of Oman. He presently works as Consultant Spine Surgeon and Academic Chair at Sparsh Hospitals at Bangalore. He is also the Past Chairman of AOSpine Asia-Pacific. He maintains an active interest in academics and has to his credit numerous presentations and publications. He has been an AO Trauma and AO Spine faculty and Educational Director for several years now. Dr Menon has a very keen interest in Basic Sciences Research and has published in areas of his special interest- biomaterials, biomechanics and tissue engineering.

