9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Key Lectures

K-54
An introduction to tissue engineering: How to select the best scaffold

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Tissue engineering and regenerative medicine are fast developing approaches in the production of new organs and body tissues. On the other hand, it is a field that seeks to replace/repair or enhance the biological function of a tissue or an organ by manipulating cells via their extra-cellular environment. The concept of directly engineering tissue was articulated in detail in 1985 by Fung co-workers and the term "tissue engineering" was first used during a meeting sponsored by the National Science Foundation in 1987. Even though everyone believes that the field of tissue engineering may be relatively new, the idea of replacing tissue with another goes as far back as the 16th century. Over the past few decades, there has been a wide range of researches that have been conducted on the provision of tissue-engineered and regenerative medicine which lead to a significant improvement in the production of scaffolds with similar characteristics to a natural tissue/organ. These scaffolds needed due to either trauma/injury, genetic disorders and diseases where can lead to damage and degeneration of tissues in the human body, which necessitates treatments to facilitate their repair, replacement or regeneration. The aim of this talk is to talk about basic principles of tissue engineering and regenerative medicine and in particular show the path for selecting the best biomaterials known as scaffolds to complete the treatment of damaged/diseased tissue or organs.

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