

Polymer Based Biodegradable Drug Delivery Systems in Pain Management

M. Al.Malyan, C. Becchi and N. Ashammakhi

Summary

Pain, one of the most significant public health problems, is an unpleasant sensory experience commonly produced by damage to bodily tissues. However, it reflects also mixture of various pathophysiological, psychological and genetic contributions. Around 21.5% of world population are estimated to suffer from pain conditions which result in loss of huge sum of money. Under-treating pain usually results in serious immune and metabolic upset and therefore, wide understanding of pain mechanisms and intensive effort for a better management are cornerstones for pain control. Currently, pain control suffers many limitations like limited efficiency of used drugs, serious side effects of these drugs, and inefficacy of current drug administration methods. Exploitation of biotechnology can provide pain medicine a novel method for drug delivery to take control over painful conditions and to deal with drugs side effects and patient incompliance. Biodegradable controlled release devices are polymer based devices that are designed to deliver drugs locally in a predesigned manner. Recently, there was a high interest in developing devices of various polymers for the delivery of different drugs used for pain control. This paper highlights the dimensions and basics of problem of pain and overview the biodegradable polymer based drug delivery devices for pain management.

KEYWORDS: Multifunctional, pain, anti-inflammatory, bioabsorbable