Dimitrios A Lamprou, J Pharm Drug Deliv Res 2017, 6:3 (Suppl)
http://dx.doi.org/10.4172/2325-9604.C1.017

Polymeric nanofibers for controlled release in hernia repair

Dimitrios A Lamprou
University of Kent, UK

A hernia of the abdominal wall is a permanent or intermittent protrusion of abdominal contents outside the abdominal cavity through a defect in the abdominal wall. Hernia can be congenital or acquired, the latter mainly being as a result of the incision made during surgery. Many hernias can result in no symptoms, however some can go on to develop a range of problems from pain and cosmetic appearance to bowel obstruction, fistula and bowel ischaemia, which can be life-threatening. The majority of hernias are repaired by inserting a mesh to stabilise the weakness in the abdominal wall. These meshes can be biological (e.g. porcine) or synthetic. However, despite many different approaches to repair hernia with mesh, many hernias go on to recur or result in complications (mesh erosion into surrounding organs; adhesions for example), increasing the potential symptoms and morbidities for the patient involved. The purposes of this study was to analyse the physical and physiological properties of an abdominal wall hernia and to develop a biological scaffold in order to overcome the physical and physiological limitations of abdominal wall hernia. Two advanced fabrication techniques (electrospinning and 3D printing) was used for the formulation of the scaffolds with and without drug molecules, in order to obtain a system that can facilitate hernia repair and wound healing. The systems was characterised by state-of-the-art techniques such as AFM, ToF-SIMS, CAG and Rheology.

Biography

Dimitrios A Lamprou is an Associate Professor in Pharmaceutics at University of Kent, and has been trained in multidisciplinary areas and worked in first class laboratories. He has experience of Teaching in higher education, conducting research and securing national and international funding (over £1M). He has authored over 40 articles in high impact multidisciplinary journals, and over 130 poster and podium presentations at national and international conferences.

dimitrios.lamprou@strath.ac.uk

Notes: