



School of Pharmacy PhD Projects 2015/16

Project Title A novel controlled release drug delivery system for outpatient induction of labour

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Description Induction of labour (IOL) is a common procedure used in current clinical practice to ripen the cervix and induce uterine contractions to aid expulsion of the fetus through the cervix and vagina. A number of different medical and mechanical methods have been used for IOL, but the current gold standard is vaginal administration of dinoprostone using a gel or pessary. Since 1987, vaginal and oral misoprostol have also been used for IOL. In the vast majority of cases, induction of labour is performed in a consultant-led obstetric unit, requiring the woman to be admitted to hospital. As a result, IOL often increases both the duration of hospital stay and the overall cost of delivery. Also, IOL frequently not always work first time, resulting in further delay in repeating the induction or caesarean section. Sustained or controlled release prostaglandin products for IOL may overcome many of these issues.

In this project, we propose to develop a novel, controlled release, out-patient method to cause IOL. The method will be based on using a vaginal ring device that can provide prolonged and constant release of prostaglandin at clinically effective concentrations. In this way, we aim to induce a more 'natural' cervical ripening and uterine contraction to mimic spontaneous labour. It is anticipated that this vaginal ring device will not only be acceptable to women but that it will be safer than other more conventional methods of IOL. It should also prove cost effective, enabling the woman able to stay at home until she is in labour. The prostaglandin's controlled release, low dose and gradual onset of action should mean less risk of hyperstimulation and safer delivery for the mother and fetus.

The project will primarily focus on laboratory-based research activities relating to pharmaceutical product development and testing, although additional activities relating to clinical practice and obstetric care will also be included.

September / October 2015

Start Date Induction of labour, vaginal administration of prostaglandins, controlled release, vaginal ring

Keywords

Contact Details

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How to Apply

Postgraduate applications should be made using Queen's Online:

<http://go.qub.ac.uk/pgapply>

Please note that there are two application processes: one for admission to the university and another for postgraduate awards.

Further Information

Additional information for prospective postgraduate students can be found on the School of Pharmacy website:

<http://www.qub.ac.uk/pha>

and the Queen's Postgraduate website:

<http://www.qub.ac.uk/home/ProspectiveStudents/PostgraduateStudents/>

