

Workshop Report

Pregnancy After Bariatric Surgery: Optimising the Health of Mothers and Babies

20 – 21 April 2017, University of Surrey, UK

Bariatric (or obesity) surgery (BS) is an effective treatment for the management of obesity and its complications, including type 2 diabetes. The population undergoing BS is growing but it is noteworthy that three out of four operations in England are now in women - the majority of whom are of child bearing age. Bariatric surgery has a profound effect on women's reproductive health with research from the University of Surrey having previously identified that women may be specifically choosing surgery as a means of improving their fertility. Women may conceive quickly after bariatric surgery but questions remain as to whether this could lead to poor pregnancy outcomes. There are no national guidelines regarding the management of this high risk group (post-surgery, pre-conception). Current practice advice, such as the recommendation to wait at least 18 months after surgery before conceiving, lacks a robust evidence base and, in not reflecting the needs and lifestyles of the women, is failing to influence their behaviour. Research at the University of Surrey and by partner institutions within the PREPARE network (Programme of Research & Education in Preconception Care) has shown rapid regain in fertility and short surgery-to-conception intervals. It is essential that any opposing risks are characterised and subsequently minimised through robust research, evidence assimilation and expert guidance.

The meeting was organised by Prof Jill Shawe (Lead for Maternal and Family Healthcare) and Dr Kathryn Hart (Lecturer and Registered Dietitian, Department of Nutrition, Faculty of Health and Medical Sciences).

This meeting brought together expertise from a multidisciplinary group of researchers and clinicians (midwives, dietitians, endocrinologists, health psychologists and surgeons) from Surrey as well as national and international experts in the field.

The international delegates were:

Prof Régine Steegers - Professor in Periconception Epidemiology at the Departments of Obstetrics and Gynaecology, Epidemiology, Pediatrics and Clinical genetics, of the Erasmus University Medical Centre, Rotterdam, Holland, **Dr Sander Galjaard** - Erasmus MC, Department of Obstetrics and Gynaecology Netherlands, Rotterdam, **Dr Iztok Stotl** – Department of Endocrinology, Diabetes and Metabolic Diseases University Medical Centre Ljubljana, Slovenia, **Dr Orit Blumfeld** – Director of National Diseases Registries unit, Israel Center for Disease Control, Israel Ministry of Health, Jerusalem, Israel, **Prof Roland Devlieger** - Obstetrics and Fetal Medicine, University Hospitals Leuven, Belgium.

Other international colleagues were able to join the meeting via teleconferencing:

Prof Shahrad Taheri - Professor of Medicine & Integrative Medicine, Director, Clinical Research Core, Weill Cornell Medicine, Qatar, **Dr Karl Johansson** - Obstetrician-gynecologist in Oroville, California, affiliated with Oroville Hospital, **Prof Tamy Shohat** - Director, Israel Center for Disease Control, Ministry of Health, Associate Professor, Department of Epidemiology and Preventive Medicine, School of Public Health, Tel Aviv University, **Dr. David Goitein** - Advanced laparoscopic surgeon, Herzliya Medical Centre, Tel Aviv.

The **objectives of the meeting** were to debate the key questions and advance scientific knowledge and practice in the area of pregnancy after bariatric surgery; and to identify key areas of focus for collaborative

work between delegates to produce a consensus guidelines document on best practice for facilitating healthy pregnancies after bariatric surgery.

The meeting started with a representative of each national and international centre presenting an outline of their current practice and recent research outcomes – this was augmented by the postgraduate researchers themselves being present to discuss their research. The second session of the day progressed with the participants presenting the specific issues and unanswered questions they face in managing pregnancy after bariatric surgery. In the absence of national guidelines for preparing for pregnancy after bariatric surgery, most centres have developed local guidelines for micronutrient supplementation and macronutrient composition of the diet. The requirement for frequent monitoring plus the large numbers of women with the potential for pregnancy has led to concerns about resources devoted to this group. These concepts evolved into the following themes that will need to be addressed by clinicians, researchers and policy-makers:

Safety

The importance of raising awareness amongst patients, clinicians and policy-makers of the steps that need to be taken to promote maternal and child health before, during and after pregnancy following bariatric surgery, was considered a priority. It was agreed that pregnancy occurring almost immediately after surgery may be adversely affected by the abdominal scarring and recovery process. Pregnancies occurring over the subsequent months may be affected by the catabolic state induced by rapid weight loss. The timepoint at which the risk of these processes to a pregnancy plateau requires investigation.

Multidisciplinary working

Delegates agreed that a multidisciplinary team to manage the pathway through surgery was essential to ensure the multi-faceted needs of this patient group were met. This was a thread running through all of the discussions, particularly as the breakout groups were orchestrated to ensure that each group had a doctor/surgeon, dietician and midwife. All agreed that management of dietary supplementation, monitoring of micro/macronutrients and support with preconception care and contraception were essential components of such a pathway. Effective delivery of advice in each of these areas can be achieved through the composition of such a multidisciplinary team.

Cost-effectiveness

Although the evidence base supporting patient optimisation after surgery (for those with the potential to get pregnant) is growing, there has yet to be a considered cost-effectiveness analysis for advocated dietetic, contraceptive and surgical approaches. This could be factored into the design of future cohort studies within the collaboration as a unique area of focus, providing important evidence for future grant applications.

Sharing of data

There is heterogeneity in the use and granularity of registers for bariatric surgery between centres in the UK and across our international partners. Registers can offer a rich source of data for retrospective analysis. At the meeting the composition of members' datasets were discussed and methods to overcome barriers to unification/data sharing from datasets were identified.

Personalised Medicine

It was agreed by all present that for a woman of fertile age a tailored pathway through the surgical journey was needed that would encompass micronutrient supplementation, dietary advice, contraception planning and clinical monitoring. For a variety of reasons women having bariatric surgery do not always feel

comfortable declaring their intentions with regard to pregnancy. This therefore makes it necessary to target all women of childbearing age with these measures. It may be necessary to package these components as 'lifestyle advice' rather than 'preconception care', in order to promote engagement. The involvement of multidisciplinary teams of midwives, dietitians, bariatric nurses and surgeons/doctors was considered imperative, to allow all these components to be delivered and tailored according to personal needs. It was also suggested that such involvement needed to be maintained from pre-surgery to post-pregnancy, as there are considerations regarding breastfeeding that also need to be taken into account. Involvement from psychologists was also considered helpful to address some of the barriers to compliance with health advice and discussing pregnancy.

Next steps – Outcomes

From this meeting, further discussions are planned to develop the concepts of data sharing and guideline development. The publication of these guidelines will be the first step in a research collaboration which will address the unanswered questions surrounding care for women of fertile age after bariatric surgery.

Acknowledgements

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Organisers:

Prof Jill Shawe, Lead for Maternal and Family Healthcare, on behalf of the PREPARE team.

Dr Kathryn Hart, Lecturer and Registered Dietitian, Department of Nutrition, Faculty of Health and Medical Sciences



Day One: Prof Jill Shawe opens the meeting



Day One: Bobby Huda presents his short delegate introduction



Day Two: Prof Roland Devlieger presents a bariatric surgery cohort study design framework for discussion by delegates



Day Two: Breakout groups meet to review current bariatric surgery guidelines and discuss areas of focus