Postnatal Care of Patients With Gestational Diabetes In Primary Care

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Abstract

Background: Pregnant women with gestational diabetes mellitus (GDM) and their children carry high risk of future type 2 diabetes mellitus and metabolic abnormalities. Early diagnosis of GDM and prompt management, as well as postpartum follow up and preventative care can reduce this future risk. The main objective of this study was to assess the postpartum follow up of GDM patients and to examine the local protocols and policies in place to ensure adherence to national guidelines.

Methods: An initial audit was completed at a local health practice in Scotland, UK by enquiring about the local protocols in place for high risk patients, from all partners and practice staff, by searching for any printed forms or tools available in practice locally and by searching for any online protocols or guidelines at NHS Lanarkshire website. Based on the initial findings, several changes were proposed, agreed by all the staff and implemented for appropriate follow-up of GDM patients postnatally. Secondary data collection was performed 8 weeks after implementation to assess adherence to proposed changes.

Literature Review: A short literature review was conducted to obtain evidence-based recommendations from national guidelines and protocols for appropriate identification and management of GDM patients postnatally.

Results: Preliminary data revealed that there were no formal follow up protocols in place however after the Proforma suggestion it was decided to make the necessary changes for follow up of high risk discharged patients. Data collection over a 2 month period revealed successful implementation of the suggested protocol resulting in identification and follow up of all GDM patients.

Conclusion: Initially there was no formal mechanism in place to identify high risk GDM patients postnatally for follow up. Once the necessary changes were implemented, it led to successful identification and management of all GDM patients in primary care after discharge from hospital. However, this approach does have some limitations due to additional factors such as the availability and experience of the workforce, IT related issues, and geographical relocation of patients which are beyond control and scope of this project.

Key words: postnatal care, gestational diabetes, primary care

Introduction

Gestational diabetes mellitus (GDM) is defined as "Glucose intolerance of variable severity, with first recognition or showing onset during pregnancy". This includes those with impaired glucose tolerance which reverts back to normal levels after delivery and also those with undiagnosed type 1 or type 2 diabetes (1). GDM usually affects during the second or third trimester of pregnancy. However, if diagnosed during the first trimester then most likely it pre-existed as undiagnosed diabetes before pregnancy (2). It occurs in 3-5% of all pregnancies, in other words 1 in 20 pregnant women will develop GDM at some stage (3). The prevalence of diabetes in pregnancy is increasing in the U.S, with GDM comprising the major part and the remainder divided between pre-gestational type 1 and type 2 (4). In the UK, approximately 700,000 women give birth each year in England and Wales, 5% of these pregnant women (35,000) have either GDM or pre-existing diabetes. Out of these 5% women, the majority (87.5%) have GDM, with 7.5% type 1 and the remainder 5% with type 2 (5).

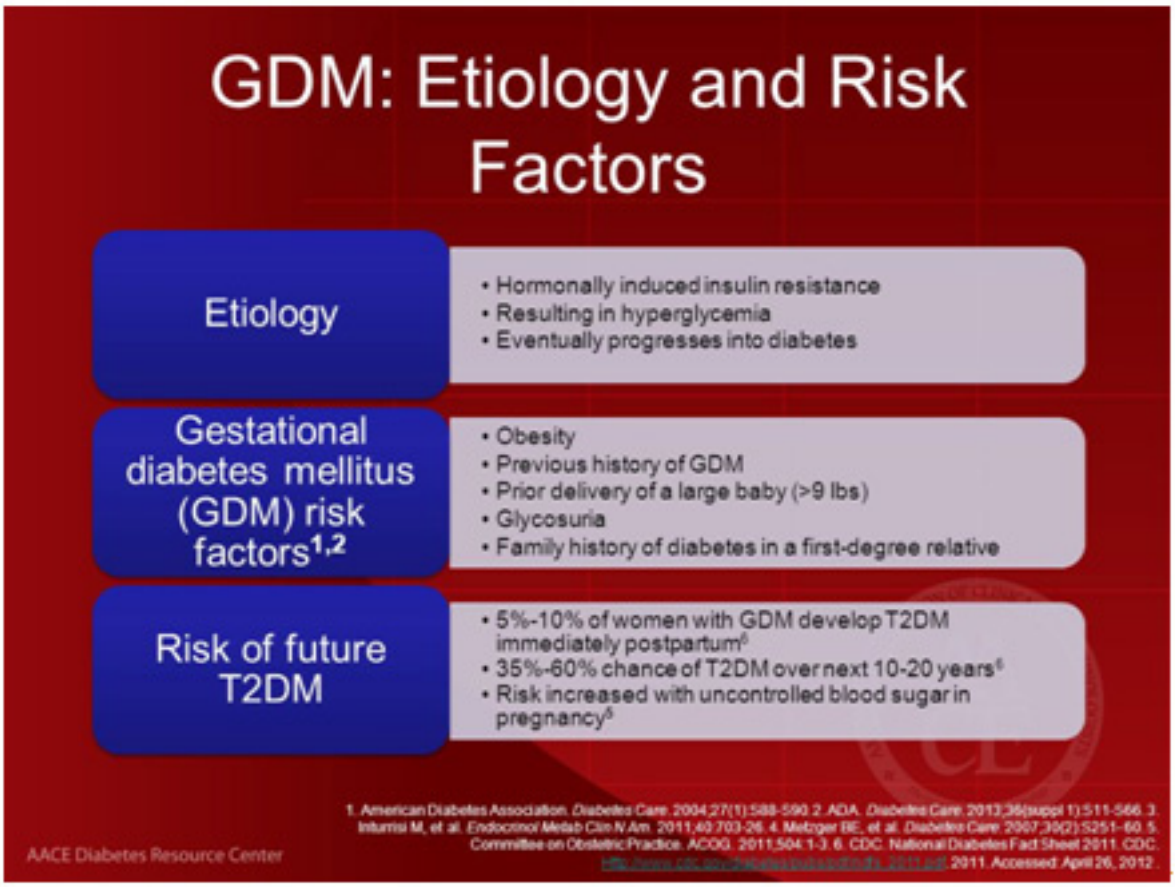
GDM increases the risk of developing type 2 diabetes postnatally. Women with previous GDM have a seven-fold increased risk of developing type 2 diabetes later in life (6). As per NICE (National Institute of Clinical Excellence) guidelines, 50% of women diagnosed with GDM develop type 2 diabetes within five years of giving birth (6)(7). GDM causes both insulin resistance and impaired insulin secretion and shares the same risk factors as of type 2 diabetes (Figure 1). GDM is a precursor of type 2 DM in predisposed women who face metabolic challenges of pregnancy (8). Women with the following risk factors are at an increased risk of developing GDM (1)(2)(9).

- BMI of > 30 kg/m2
- Previous macrosomic baby weighing ≥ 4.5 kg
- GDM in previous pregnancies
- Family history of diabetes with a first degree relative with diabetes
- Ethnic background with a high prevalence of diabetes in Asian, Black, Caribbean and Middle Eastern origin.

Aims and Objectives

Scottish Intercollegiate Guidelines Network (SIGN) guidelines recommend that all women with GDM should have their glucose tolerance reassessed at least 6 weeks postnatally with a minimum of fasting blood sugar test (FBST) and with 75gm Oral Glucose Tolerance Test (OGTT) if clinically indicated. They should be given advice regarding diet, weight control and exercise and an annual assessment using HbA1c or FBST should be carried out thereafter (1). Women previously diagnosed with GDM and whose blood glucose levels returned to normal after birth, should be offered a FBST by 6 to 13 weeks postnatally. If a FBST is not performed by 13 weeks then they should be offered a fasting glucose test or HbA1c test in cases where fasting glucose test is not possible. NICE does not recommend routinely offering a 75gm OGTT, instead an annual HbA1c test should be offered thereafter (9). As per the Canadian Diabetes Association, a postpartum

Figure 1: Taken from AACE Diabetes Resource Centre – Power Point Presentation (10)



FBST alone can miss up to 40% cases of dysglycemia so a 75gm OGTT should be done between 6 weeks to 6 months (11).

Out of nearly 800 women diagnosed with GDM in England, only 102 (13%) received one or more postnatal blood tests as per the above guidelines (12). In Scotland, there has been a nine fold increase in cases of GDM from 1981 to 2012 with a prevalence of 1.9% in 2012, confirming that the reporting and follow up of GDM was low in Scotland (13). The aim and objective of this work-based project was to introduce a systematic approach providing postnatal care and follow up to patients diagnosed with GDM in primary care after delivery. The current practice at a local primary care practice in South Lanarkshire, Scotland, had no set standards or protocols in place for follow up of these patients in the community, resulting in loss of postnatal care and follow up. This project was designed to ensure that women with GDM are followed up in the community postnatally as per the above guidelines.

Methods

A baseline audit was completed at local primary care practice by: (i) enquiring about the local protocols in place for high risk patients, from all partners and practice staff, (ii) searching for any printed forms or tools available in the practice locally and (iii) searching for any online protocols or guidelines at NHS Lanarkshire website. Initial data collection showed there were no set protocols in place for postnatal follow up and screening of these high-risk patients after discharge from secondary care. There were no regular 6 week checks or any annual screening done in the community.

On the basis of the above findings, the following changes were proposed in a practice meeting which were agreed upon by all clinical staff including partners, practice nurse as well as the administrative staff and were implemented in the practice.

- Discharge letters of patients in DOCMAN (software used in primary care for documents handling) with GDM after review by doctors will be redirected to practice nurse's inbox. Practice nurse will add them to annual monitoring register for recalls and also to arrange a FBST around 6 to 8 weeks postnatally.

- At 6-8 week postnatal check, doctor should ensure a FBST is either already performed or booked. All patients must be given diet, weight control and exercise advice and future risks of diabetes explained very clearly.

- A Proforma was introduced with tick box sections to ensure that patients have blood tests arranged and lifestyle advice given when attending for postnatal check.

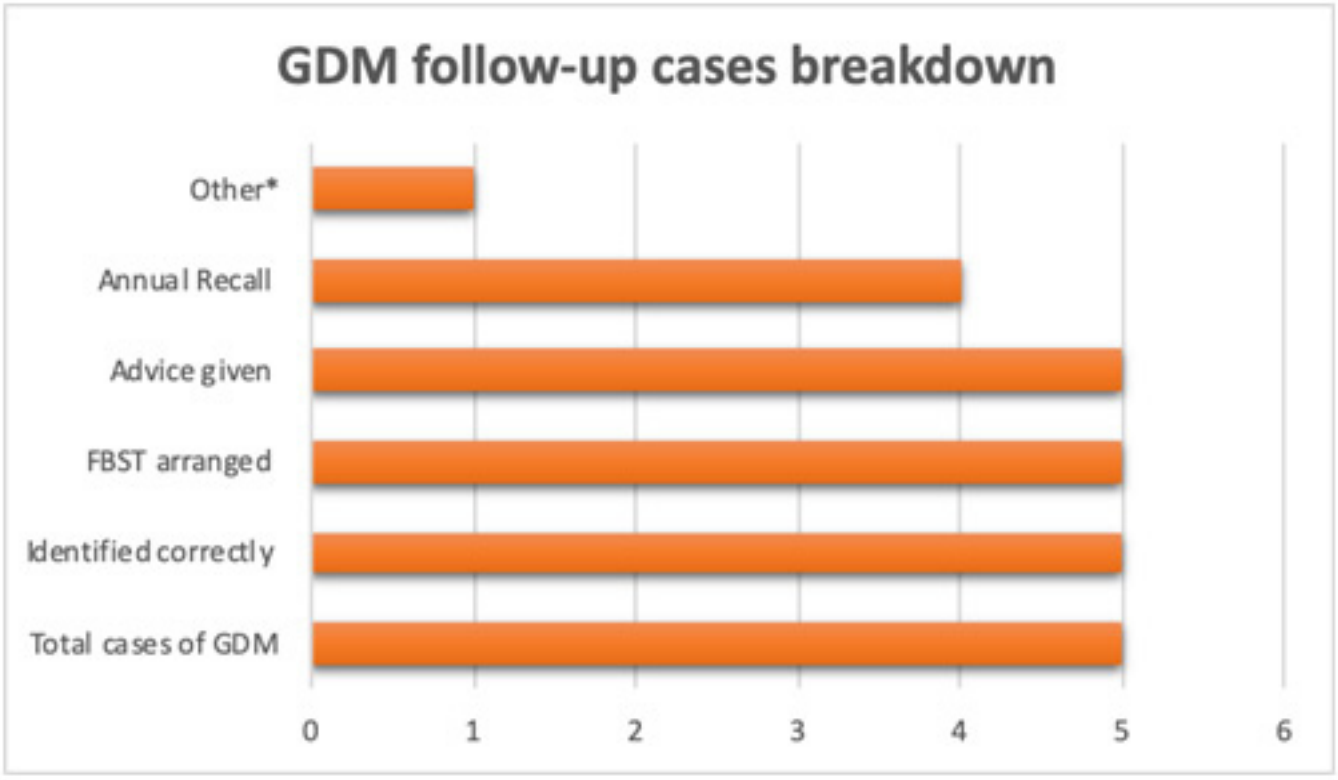
- Finally, these proformas were passed on to practice nurse again before filing in notes, to ensure patients were added to practice register for annual recalls.

- Collect data again after 8 weeks of implementation of changes, as postnatal clinics are held twice a month at the practice, giving results from 4 postnatal clinics. The proformas filed by doctors to be reviewed along with FBST results before final filing in DOCMAN.

Results

Data collection over 2 months showed a total 5 cases of GDM discharged back to primary care (Figure 2 - next page). All cases were identified by doctors on receipt of discharge letters in DOCMAN and were forwarded to practice nurse appropriately. All had 6 week FBST either booked or performed by 6-8 week postnatal check and were advised regarding diet, exercise, weight management, annual screening and their future risk of diabetes. All the proformas were filled in appropriately. Out of five cases, four patients were added onto annual recall register, one patient moved out of Scotland due to family reasons and had no GP enrolment yet at their new place. That patient was given further advice specifically to ensure proper follow-up with a GP locally, highlighting her future risk and annual screening requirements.

Figure 2: Total number of GDM cases identified in the 8 week period and their follow up breakdown. *Others refers to 1 patient who relocated to a different area therefore was unable to offer annual recall.



Discussion

Initial data collection highlighted the flaws in clinical practice related to postnatal care of patients with GDM. The practice had no set standards for such high-risk patients and these women were lost in the community postnatally with no follow ups. Despite extensive research, no local NHS Lanarkshire guidelines or any post-natal screening programs were available for referencing.

NHS Tayside has designed a local guideline, depending on likelihood of ongoing diabetes 6 weeks postpartum (14). Similarly, a very helpful postpartum follow up tool has been designed by American Congress of Obstetricians and Gynaecologists (ACOG) which includes a patient information leaflet and follow-up instructions in a simple manner (15).

On the basis of the above findings, the project proposal was discussed in a practice meeting which was welcomed by the practice staff and their response was very encouraging. The proposed changes were advised and discussed by both clinical and administrative staff and agreed upon together. It was ensured that everyone agreed to change and no one felt overloaded work wise. New proforma with check box was designed, printed and attached with regular 6-8 week postnatal check form. The results have been very positive and encouraging. No issues were identified causing any hindrance in implementation of guidelines in clinical practice.

The main issues which can compromise absolute implementation of these guidelines in future are:

- Frequent changes of clinical staff at practice. This includes new locum doctors, new trainee doctors who may not be aware of guidelines and can miss initial screening of patients while filing their records in DOCMAN.

- Currently, practice has only one nurse practitioner and they being away for longer time periods like sick leave, annual leave etc can compromise arranging FBST by 6-8 week postnatal check.

- Highlighting the future risk of type 2 DM, emphasising on diet, weight control and exercise and minimising the future risk of diabetes needs more sessions, counselling, health promotion, patient involvement and motivation and this cannot all be achieved in one clinic appointment only.

- Another problem encountered was with patients moving off the practice list. These can be missed and need more understanding and insight of their future risk, so they can stay in close contact with their new health care providers.

Conclusion and Recommendations

Although the aims and objectives outlined above have been achieved successfully so far, there are still many gaps in the system which can cause failure of implementation of guidelines in future as mentioned above. First of all, new staff need to be aware of local guidelines and procedures, which can be arranged at induction by giving a printed information pack.

Secondly, there should be some alternative arrangement for 6 week FBST test if the practice nurse is unavailable

due to leave or sickness. This can be done by discussing with the administration staff who can redirect the practice nurse mail to one of the partner's inbox to ensure a FBST is arranged by 6-8 weeks for postnatal check.

Thirdly, these patients need more face to face counselling, dietary input, weight and exercise advice, planning for future pregnancies, more insight and awareness, which simply means they need more regular follow ups in clinic rather than just one tick box counselling session. These patients should ideally be added to regular diabetes recall clinics, once every three months to have closer follow up and optimising their diet and weight control.

Fourthly, those moving out of the area and practice list should be given some printed information to hand to the new practice so the new health care providers are aware of their future risk and can provide care as per local guidelines.

All these factors need to be considered on a long term basis, something which is out of the scope of this project but is very important in providing higher standards of quality care for GDM patients.

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