



Royal College of
Obstetricians &
Gynaecologists

Improving Multidisciplinary Team Awareness of Cytogenetics Testing in Recurrent Miscarriage Investigation

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Introduction

Miscarriages are caused by a plethora of reasons including anatomical irregularities, clotting disorders and infection. However, studies have shown that up to 70% of pregnancy losses can be attributed to chromosomal abnormalities.¹ The Royal College of Obstetricians and Gynaecologists recommend that as part of the recurrent miscarriage (RM) pathway, products of conception (POC) should be sent for chromosomal analysis. This allows for identification of aneuploidy, unbalanced chromosomal translocation, inversion or euploidy which is important as each outcome elicits different management. Initial cytogenetics testing influences the decision of whether a patient requires further extensive investigations – this can be a taxing and stressful process.

Aims

Our objective was to implement a cytogenetics testing pathway into Great Western Hospital's (GWH) RM service, thereby aligning it with the current RCOG guidance. We aimed to improve the awareness of this newly introduced protocol amongst members of the multidisciplinary team (MDT) over the course of 18 weeks.

Methods

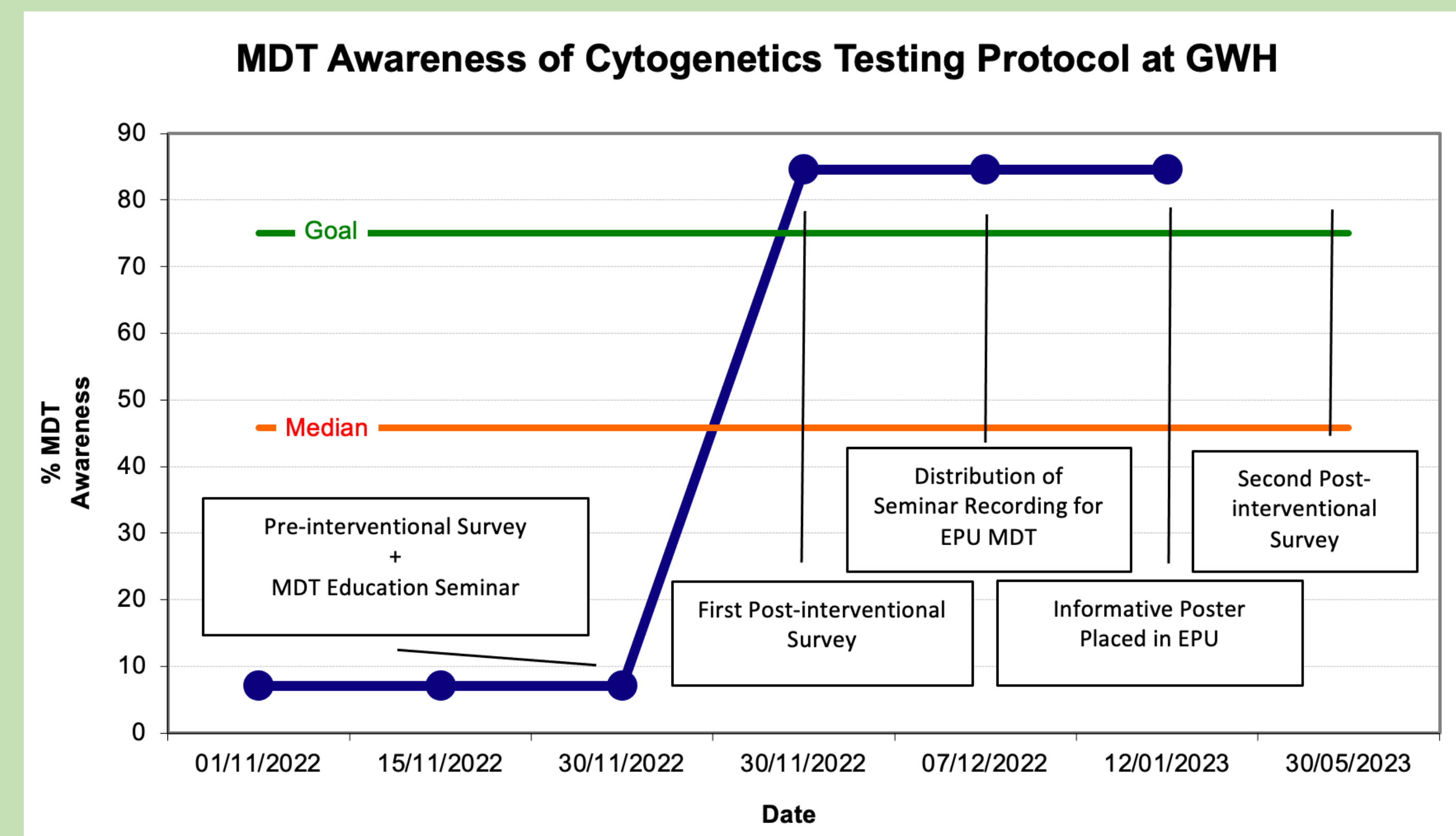
Our first intervention consisted of an MDT educational seminar which discussed the RCOG recommendations for cytogenetics testing and presented the findings of our literature review. Our second intervention was an informative poster (Figure 1) which was placed in key locations within the Early Pregnancy Unit (EPU) and illustrated a step-by-step guide of the updated cytogenetics protocol at this hospital. We conducted pre- and post-interventional surveys to measure baseline MDT awareness and observe how this developed after the introduction of our interventions.

Results

Our surveys employed a scoring system from one to five where the threshold of awareness was defined as scores equal to or in excess of four. The pre-interventional survey showed that MDT awareness of the cytogenetics process was 7.1%. The post-interventional feedback revealed a marked improvement, with awareness increasing to 84.6%. This included 7/13 attendees who deemed their competence at the maximum score. 64.3% of responders exhibited concern regarding the difference between RCOG guidance and hospital practice, with many citing the absence of cytogenetics testing as their primary reasoning.

Conclusion

Simple and cost-effective measures have been implemented to increase awareness of the cytogenetics protocol among MDTs, ensuring that patients are managed in accordance with evidence-based guidelines. The seminar and informative poster were effective strategies in raising awareness, with the poster serving as a long-term tool to reinforce the information. A second survey will be conducted in late May to assess the long-term effectiveness of the interventions. This project has the potential to be scaled up at a local and national level to ensure consistent awareness and practice of the correct cytogenetics procedure across different healthcare trusts.



References

1 - McQueen, Dana B., and Ruth B. Lathi. "Miscarriage Chromosome Testing: Indications, Benefits and Methodologies." Seminars in Perinatology, vol. 43, no. 2, Mar. 2019, pp. 101-104.

The poster provides a step-by-step guide for sending POC for cytogenetics testing. It includes a form for the Oxford Regional Genetics Laboratories Test Request, which contains sections for Patient Details, Referring Details, Clinical Details and Family History, and Test(s) Requested. The poster also includes a diagram of a Universal tube and a list of key points to remember.

Has your patient had 2 or more miscarriages?
Please send Products of Conceptions (POC)

Split POC into 2 samples: one for GWH histology lab and one for the Oxon cytogenetics lab. Warn patients the turn around time is 72 calendar days & not all samples are suitable for analysis. Please also note

1. Electronic Discharge Summary (EDS): ask the GP to refer patient to the "Recurrent Miscarriage Clinic" for follow up.
2. Don't send blood samples for recurrent miscarriage investigations. This will be done in the clinic if indicated.

This form is available in EPU

POC should be sent in a Universal tube. Send dry sample.

Mr Kevin Jones

Recurrent Miscarriage

SNP array on POC for aneuploidy

Figure 1
Informative poster placed in
GWH EPU