Further update on the role of geko™ in reducing the risk of venous thromboembolism (VTE) in Obstetrics

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Objective

To further explore the role of mechanical electro-stimulation device (geko™ Firstkind Ltd) for VTE prophylaxis in obstetrics with a larger number of patients.

Design

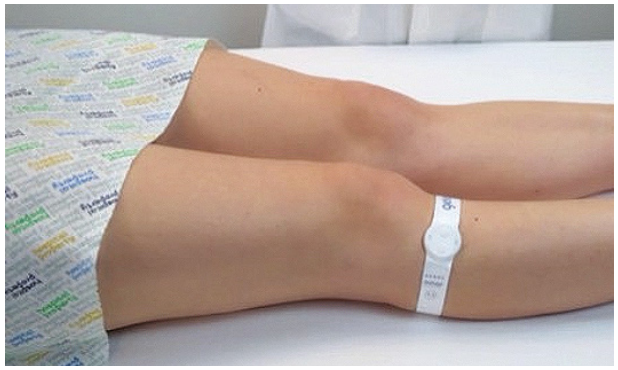
Prospective observational study.

Background

- To determine the most appropriate prophylaxis, several patient-related factors must be considered: the reason for hospitalisation, medical history, expected treatment from the intervention, possible harm of prophylaxis and patient preference.
- If a patient is considered to have a risk of bleeding, and this risk outweighs the risk of VTE, pharmacological prophylaxis will not be offered.
- The NICE medical technologies guidance (MTG19) recommended adopting the geko™ device for use in obstetric patients with high risk of VTE and for whom other mechanical and pharmacological methods were impractical or unsafe.
- The geko™ device is a single-use, battery-powered, neuromuscular electro-stimulation device that aims to reduce the risk of (VTE).

Method

The study was conducted at Barnsley Hospital. High risk women in whom pharmacological thrombo-prophylaxis was considered unsafe or impractical were offered the geko™ device until pharmacological thrombo-prophylaxis could be introduced.

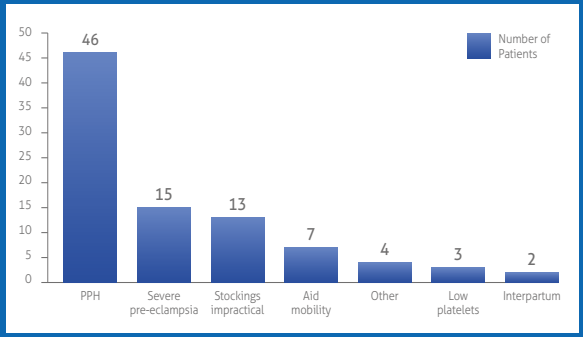


Fitting location of the geko™ device

Results

90 women were recruited over a period of 17 months[1] all of whom required the geko™ device at some stage of their labour, representing a 2% need overall.
We found 54% (49/90) postnatal women needed the geko™ device as their only method of thrombo-prophylaxis. Of these women, 94% (46/49) had postpartum haemorrhage (PPH) and 6% (3/49) had low platelets for which Dalteparin® was contraindicated.
Sixteen percent (15/90) of the women with severe pre-eclampsia benefitted from the geko™ device antenatally during their admission as they were at risk of needing urgent delivery.
Fourteen percent (13/90) of the women had severe oedema or high BMI resulting in TED stockings being impractical to use.
Eight percent (7/90) of the women were deemed high risk therefore geko™ was used to aid their mobility.
Two percent (2/90) women who had antenatal Daletparin® used the geko™ device during labour. Only five women did not tolerate the device and subsequently discontinued.

High risk groups identified



Conclusions

- The geko™ device studied was safe and well tolerated.
- The geko™ device is potentially useful as a method of thrombo-prophylaxis in high-risk patients where other pharmacological methods are contraindicated or impractical.
- In addition, compared to pneumatic sleeves, the geko™ device allows early patient mobilisation thereby reducing their VTE risk.
- Further studies with larger sample size will assist in development of clear protocol on the indications for use of the geko™ device in obstetrics.

Highlights

- The geko™ device was used for maximum of 36 hours.
- This study included an additional 67 patients and the cumulative results were consistent with the original pilot study supporting the role of geko™ in obstetrics.

Barnsley Hospital Quality in Care

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References: 1. Data on file, Barnsley Hospital, 2019.

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