Barnsley Hospital Quality in Care

NHS Barnsley Hospital NHS Foundation Trust

Is there a role for geko™ Electro-Stimulation Device for reducing the risk of Venous Thromboembolism (VTE) in obstetrics?

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Objective

To explore the role of mechanical electro-stimulation device (gekoTM Firstkind Ltd) for VTE prophylaxis in obstetrics.

Design

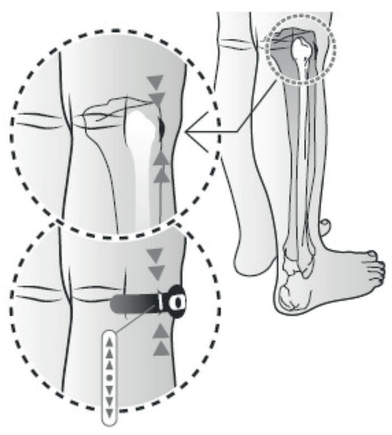
Prospective observational study

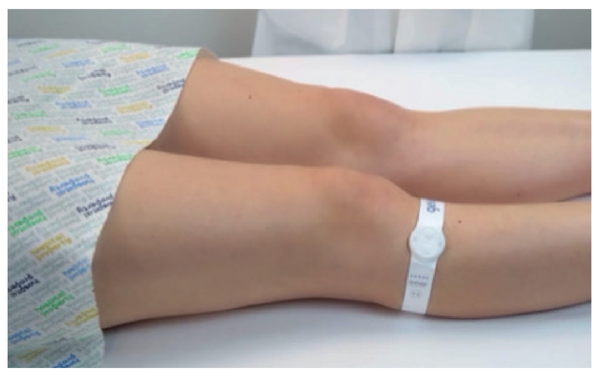
Background

- 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 (19) recommended adopting the gekoTM 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 electrostimulation device that aims to reduce the risk of venous thromboembolism (VTE).

Method

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





Locations of application of gekoTM

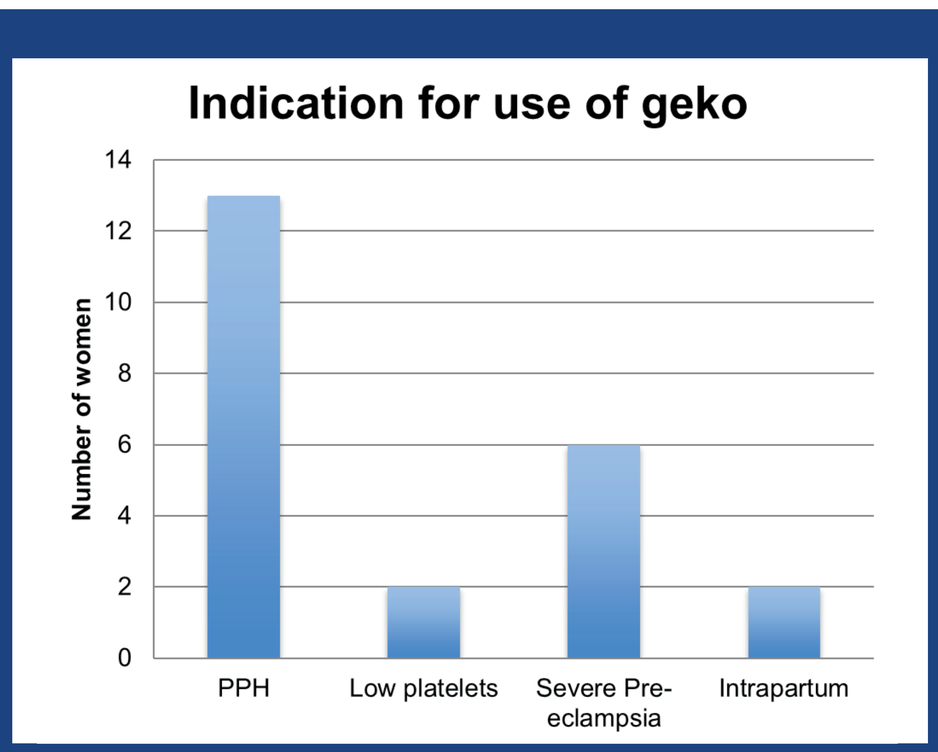
Results

23 women were recruited over a period of 6 months (Dec 2016 - May 2017).

We found 65% (15/23) postnatal women needed the device as their only method of thrombo-prophylaxis. Of these women, 87% (13/15) had postpartum haemorrhage and 13% (2/15) had low platelets for which Dalteparin was contra indicated.

Quarter (6/23) of the women with severe pre-eclampsia benefitted from the device antenatally during their admission as they were at risk of needing urgent delivery.

Eight percent (2/23) women who had antenatal Daletparin used gekoTM during labour. Only two women did not tolerate the device and subsequently discontinued.



Conclusions

- **The device studied was safe and well tolerated.**
- **The 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, gekoTM allowed patient mobilisation thereby reducing their risk.**
- **Further studies with larger sample size will assist in development of clear protocol on the indications for use of gekoTM in obstetrics.**

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