Pre-eclampsia ratio test cuts costs and improves patient welfare

Introduction

Facts about pre-eclampsia:

Affects 8.5 million women a year globally

Of the ***768,111*** **pregnancies in the UK (ONS 2014)[1]:**

Up to ***103,695***
are complicated by hypertensive disorders[2]

Up to ***77,771***
women are admitted and investigated for suspected PE[2]

2% – 3%
will be complicated by PE[3] (up to 23,043 cases)[2]

Worldwide about 76,000*
pregnant women die each year from pre-eclampsia and related hypertensive disorders.

* http://www.preeclampsia.org/

In a recent multicentre, prospective study – PROGNOSIS[4] (Prediction of short-term outcome in pregnant women with suspected pre-eclampsia study) – the new Roche Elecsys sFlt-1/PlGF ratio proved to be a reliable tool in:

- Identifying patients that are at high risk of developing PE and therefore require closer monitoring.
- Allowing physicians to confidently send home patients that are not going to develop the disease for one week, for follow-up in community care.

There are many proof sources to support these findings – see *Proof Sources* below.

Benefits of the new Roche Elecsys® immunoassay sFlt-1/PlGF ratio test

Improves patient outcomes

The use of a new, simple blood test from Roche - Elecsys® immunoassay sFlt-1/PlGF ratio test - can improve the quality of antenatal care and lead to appropriate management for women with suspected pre-eclampsia (PE) by indicating:

Which women WILL NOT develop preeclampsia in the next week (99.3% confidence)[4]

These women can be safely sent home

Which women WILL develop preeclampsia in the next 4 weeks (36.7% confidence)[4]

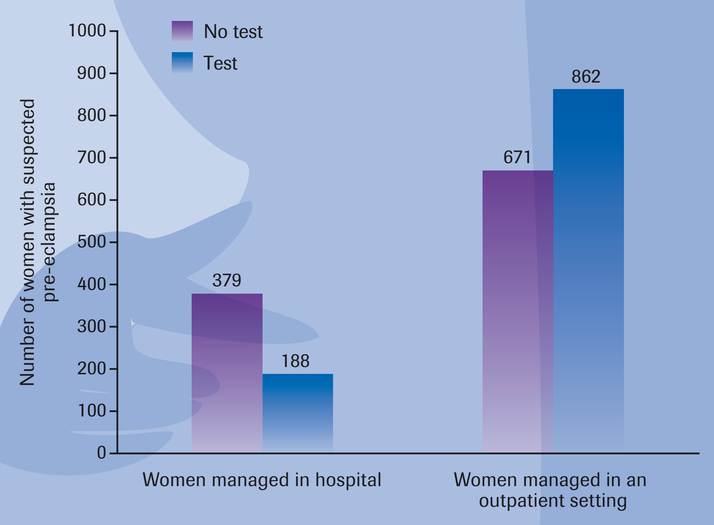
These women should be closely monitored

Things you should talk to us about:

- **How much you can cut your costs by adopting the Roche test**
- **Why this test enables clinicians to reduce the number of admissions**
- **How this test can free up not only hospital beds, but add to your Trust by providing superior, potentially life-saving, care for the pregnant woman and her unborn child.**

Reducing Hospital Admissions

The addition of the sFlt/PlGF test reduced unnecessary hospitalisation by 50%:[5]



UK NICE – Diagnostics Guidance to aid diagnose suspected pre-eclampsia

DG23 Published 11 May 2016

Recommendations:

"The Elecsys immunoassay sFlt-1/PlGF ratio, used with standard clinical assessment and subsequent clinical follow-up, is recommended to help rule-out pre-eclampsia in women presenting with suspected pre-eclampsia between 20 weeks and 34 weeks plus 6 days of gestation."

NICE Guidance DG 23

Table 1: Rule-out only cost-effectiveness analysis results for women presenting with PE before 35 weeks gestation (adapted from NICE Guidance DG23[6])

Strategy	Costs		QALYs	
	Total	Increment compared with standard clinical assessment	Total	Increment compared with standard clinical assessment
Elecsys immunoassay sFlt-1/PlGF ratio	£6,750	-£2,195	0.39422	0.00054
Standard clinical assessment	£8,945	-	0.39368	-

QALYs: quality-adjusted life years

Summary

The Elecsys® immunoassay sFlt-1/PlGF ratio can improve diagnostic accuracy and inform clinical decision-making in the prediction and management of pre-eclampsia

Use of the sFlt-1/PlGF ratio can REDUCE hospitalisation rates by more than 50%[7]

freeing up beds and reducing pressures on nurses.

Use of the sFlt-1/PlGF ratio could be expected to generate a cost saving of

£344 **per patient[7]**

This could save the NHS

£16 millon **per year**

while providing great improvements in the management of women with suspected pre-eclampsia.

(based on 68,900 women presenting with hypertension disorders annually)

Proof Sources

1. Office of National Statistics. Births by area of usual residence of mother, UK. London, 2014. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/ livebirths/datasets/birthsbyareaofusualresidenceofmotheruk
2. Data on File: DOF_sFlt/PlFGb_05_16 [Adapted from National Institute for Health and Care Excellence (2016) PlGF based testing to help diagnose suspected pre-eclampsia (DG23) Resource impact template to include UK wide figures
3. Chaiworapongsa, T., Chaemsaithong, P., Yeo, L., Romero, R. (2014). Pre-eclampsia part 1: current understanding of its pathophysiology. Nat Rev Nephrol. 10(8), 466-80.
4. Zeisler H, Llurba E, Chantraine F, et al (2016). Predictive value of the sFlt-1:PlGF ratio in women with suspected pre-eclampsia. N Engl J Med;374:13-22
5. Strunz-McKendry, T., et al. Poster presented at 20th World Congress on Controversies in Obstetrics, Gynaecology & Infertility: 4th - 7th December 2014, Paris, France
6. National Institute for Health and Care Excellence (2016) PlGF based testing to help diagnose suspected pre-eclampsia (Triage PlGF test, Elecsys immunoassay sFlt-1/PlGF ratio, DELFIA Xpress PlGF 1-2-3 test, and BRHAMS sFlt-1 Kryptor/BRAHMS PlGF plus Kryptor PE ratio) NICE guideline DG23
7. Vatish, M., Strunz-McKendry, T., Hund, M., et al. (2016). The sFlt-1/PlGF ratio test in pre-eclampsia: an economic assessment for the UK. Ultrasound in Obstetrics and Gynaecology, Publication ahead of print: doi: 10.1002/uog.159978. Hund, M., Allegranza, D., Schoedl, M., et al. (2014) Multicenter prospective clinical trial to evaluate the prediction of short-term outcomes in pregnant women with suspected preeclampsia (PROGNOSIS): study protocol. BMC Pregnancy and Childbirth. 14, 324.
8. Zeisler, H., Llurba, E. Chantraine, F., et al. (2014). Prediction of Short-Term Outcome in Pregnant Women with Suspected Preeclampsia: The PROGNOSIS Study. Abstract, 20th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI).
9. Verlohren S, Galindo A, Schlembach D, et al. (2010). An automated method for the determination of the sFlt-1/PlGF ratio in the assessment of preeclampsia. Am J Obstet Gynecol; 202:(161).e1-11.
10. Verlohren S, Herraiz I, Lapaire O, et al. (2014). New gestational phase-specific cutoff values for the use of the soluble fms-like tyrosine kinase-1/placental growth factor ratio as a diagnostic test for preeclampsia. Hypertension; 63(2):346-352.
11. Klein et al. PreOS (Preeclampsia Open Study): Influence of the sFlt-1/PlGF Ratio on Clinical Decision-Making in Women with Suspected Preeclampsia. PLoS ONE 2016;11(5): e0156013
12. Rana, S., Powe, C.E., Salahuddin, S et al. (2012). Angiogenic factors and the risk of adverse outcomes in women with suspected preeclampsia. Circulation, 125(7), 911-919.
13. Vatish, M., Strunz-McKendry, T., Hund, M., et al. (2016). The sFlt-1/PlGF ratio test in pre-eclampsia: an economic assessment for the UK. Ultrasound in Obstetrics and Gynaecology, Publication ahead of print: doi: 10.1002/uog.15997
14. Stepan et al (2015). Implementation of the sFlt-1/PlGF ratio for prediction and diagnosis of pre-eclampsia in singleton pregnancy: implications for clinical practice" Ultrasound Obstet Gynecol; 45: 241–246.
15. Klein, E. et al. (2014). PreOS (Preeclampsia Open Study), a multicenter, prospective, non-interventional study evaluating the influence of the sFlt-1/PlGF ratio on physician decision-making in pregnant women with suspicion of preeclampsia. 20th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI).