New blood test for the earlier diagnosis of breast cancer spread

Submitted by: Against Breast Cancer
Monday, 25 April 2016

UK scientists from the University of Westminster (https://www.westminster.ac.uk/cancer-research-group) have confirmed that a new blood test can detect if breast cancer has spread to other parts of the body in a research funded by the charity Against Breast Cancer (https://www.againstbreastcancer.org.uk/). Results published in the British Journal of Cancer (http://www.nature.com/bjc/journal/vaop/ncurrent/full/bjc201666a.html) showed that the test distinguished between patients with secondary breast cancer and those who remained disease free for five years after a breast cancer diagnosis.

Researchers analysed the blood of 112 breast cancer patients using samples collected as part of the charity's DietCompLyf study. They detected higher levels of a protein called 'cadherin-5' that had unusual sugars decorating its surface in women who went on to be diagnosed with secondary breast cancer over a year later. This indicates that the sensitivity of current blood tests could be improved upon for earlier diagnosis of secondary disease.

More sensitive, non-invasive tests are required for secondary breast cancer - which occurs when new tumours grow in the bone, liver, lung or brain - to make diagnosis easier and for treatment to begin as early as possible.

Dr Nicola Winstone, Research Manager at Against Breast Cancer, explains: "We envisage a future where a home test blood or urine kit for secondary breast cancer is available, much like those used to monitor diabetes or for pregnancy testing, and this work takes us a step closer to that goal. More women and men are surviving primary breast cancer than ever before and better monitoring tools are needed not only to detect secondary spread and begin treatment as early as possible, but to also empower survivors of breast cancer by addressing the emotional burden that the threat of secondary spread can cause".

Stevie Webb was only 27 years old when she was diagnosed with an aggressive primary breast cancer that was classified as 'high-risk of recurrence'. She completed her treatment in 2015 and now lives every day as if it's her last; she's just completed a 280km Husky Trail across Norway and Sweden to raise funds for Against Breast Cancer. "You always think about it [breast cancer] without realising" she says, "If I ever feel ill, I feel I'm going to be really ill. I'm more paranoid, whereas I wasn't before, I was a free spirit and now I worry more".

Dr Miriam Dwek, Reader and Group Leader of the Breast Cancer Research Unit at the University of Westminster who led the research, says: "This research verified the results of our previous work in a larger group of patients, defining cadherin-5 proteins that display abnormal sugar arrangements as a new biomarker for metastatic, or secondary breast cancer. The blood test worked particularly well at identifying metastasis in a sub-group of patients with oestrogen responsive breast cancers, which make up 70% of all breast cancers diagnosed. We are excited and hope to develop this test further so in the future there will be improved methods for the better monitoring of patients. At the moment the test is not 'patient ready' but the initial results are encouraging."

Secondary breast cancer is difficult to diagnose before symptoms are experienced and occurs in up to a

third of breast cancer patients, sometimes many years after seemingly successful treatment for localised, primary cancer that remained in the breast. Breast cancer is the most common form of cancer in women worldwide and secondary spread claims the lives of around 1000 people a month in the UK.

The full research paper is available on
http://www.nature.com/bjc/journal/vaop/ncurrent/full/bjc201666a.html

-Ends-

For further information, please contact:
Sarah Evans-Toyne, Chiara Barreca and Sonam Patel
Four Broadgate
Email: UniversityofWestminster@fourbroadgate.com
Telephone: 020 3697 4200

Graphic available – Blood test for secondary breast cancer credit: Lee Abrey and Nicola Winstone
Photo available – Breast cancer patient Stevie Webb on her Husky Trail fundraiser for Against Breast Cancer

Notes to Editors:

About the University of Westminster

The University of Westminster offers a vibrant learning environment that attracts more than 20,000 students from over 150 nations. We continue to invest in our future with new developments, research projects and new ideas.

We offer highly attractive practice-based courses that are independently rated as excellent, many with international recognition. Our distinguished 175-year history has meant we lead the way in many areas of research, particularly politics, media, art and design, architecture and biomedical sciences. Our position in London allows us to continue to build on our close connections with leading figures and organisations in these areas as well as in the worlds of business, information technology, politics and law.

Our commitment to educating graduates for the needs of professional life attracts high quality students from within the UK and around the globe.

Global engagement, employability and sustainability are key elements in the University of Westminster's vision for the future and we strive to ensure the very highest standards are met and maintained.

Against Breast Cancer

Against Breast Cancer is a charity dedicated to funding ground-breaking research to increase survival after a breast cancer diagnosis by focusing on secondary spread, the cause of all breast-cancer related deaths. We fund research that addresses critical gaps in scientific resources and knowledge to help

doctors diagnose and treat secondary breast cancer faster and more effectively, and to understand factors that may increase or reduce the risk of secondary spread so that people can make informed diet and lifestyle choices.

We have directly funded the collection of, and continue to fund the storage of over 23,000 blood and urine samples, provided annually by over 3,300 women with breast cancer from 56 hospitals across the UK in our Diet & Lifestyle Study, the largest national study of its kind. Researchers can determine differences between women who develop secondary breast cancer and those who do not by studying this collection of biological samples and dietary and lifestyle information provided at the same time.

For more information about Against Breast Cancer please see our website at www.againstbreastcancer.org.uk