

prevention and screening

1334P **A novel way to visualise tumour related angiogenesis and detect breast tumours in women: A combined clinical and optical method for breast cancer screening of well-women in Ghana**

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Background: Late stage neoplastic breast lesions abound in Ghana, especially, late-stage early-age breast cancer and therefore low survival rates after treatment of breast cancer is prevalent. The median age at diagnosis for breast cancer is 39 years hence screening mammography (“the gold standard”) is not suitable and also not readily available in Ghana. Preliminary data suggests transillumination offers a new mode of early detection for neoplastic breast lesions and is not limited by age.

Methods: In all, over 10,000 women who were manually screened for breast lesions during mobile breast screening clinics with the view to enhance early detection were offered transillumination with the breastlight/breast-i (optical torch devices used to detect angiogenesis) as well. These optical devices, (the breastlight/breast-i) developed by David J. Watmough were used to visually observe angiogenesis around breast tumours and lesions. The breastlight/breast-i operates on the principles of light travelling through tissues and the specific wavelength of light absorption by Hemoglobin in blood

Results: Here we report on a total of 9,962 “well women”, initially using Breastlight but since 2014 using a new improved instrument Breast-i. The significance of a dark shadow arises because light is multiply scattered within the breast tissues and excess absorption of red light occurs at a wavelength of around 620nm when a cancer is present, caused by angiogenesis. A sensitivity of 94.4% was obtained for detecting breast cancer.

Conclusions: The advantage of Breast-i is that there is no radiation exposure, no tissue compression and it is quick and easy to carry out the examination. This is probably the largest study of its kind in the world.

Legal entity responsible for the study: Mammocare Ghana, Highland Innovation centre and University of CapeCoast, Ghana.

Funding: Highland Innovation Centre

Disclosure: All authors have declared no conflicts of interest.