INTRODUCTION

Breast cancer is the second most common cancer worldwide, accounting for the highest number of cancer deaths in women [1].

In the United Kingdom (UK), a National Screening Programme [2] is offered to women aged 50 to 70 every 3 years, whereby a clinical examination and mammogram will be carried out and suspicious breast lumps are biopsied and referred for histopathological assessment [3].

Apart from clinical staging of cancer, breast tumours are also tested for expression of hormone receptors (ER, PR, HER2), which can act as targets for modern hormonal and immunotherapy [4]. Studies have shown that women of different ethnicities have differential expressions of these hormone receptors, and each receptor profile subtype presents with different histopathological features, thus affecting overall survival [5,6].

A previous study (Steele et al, 2015) [7] has shown that prognostic indices in Asian women were worse in symptomatic breast cancer, but similar in screen-detected invasive cancer, compared with age-matched Caucasian women.

We hypothesize that Asian women are more prone to developing tumours with receptor profiles that have worse histological features, thus poorer prognosis.

RESULTS

- Asian women have a higher prevalence of HER2+ tumours (p=0.002); while Caucasian women were more likely to get ER+/PR+/HER2- tumours.
- TNBC prevalence is similar in both cohorts.
- HER2+ tumours demonstrated the highest NPI (p<0.001).
- While no significant differences were noticed between both cohorts, HER2+ tumours were to present with larger sizes (p=0.002) and more advanced tumour grade (p<0.001).

DISCUSSION

Various multi-centre cohort studies [4,6] had shown that breast cancer hormone receptor subtypes and prognostic indices vary among ethnic groups. However, confounding factors such as health inequalities between countries; differences in development and access to healthcare infrastructure; and socio-economic status may affect the reliability of multi-population studies.

While universal healthcare exists in the National Health System (NHS), previous studies carried out in Greater Manchester had identified a disparity in breast screening uptake in the South Asian community [7]. Factors identified include deprivation, language barriers and social stigma of cancers in the ethnic minorities.

While targeted therapy exists for HER2+ tumours in the form of Trastuzumab (Herceptin®), they are more prevalent in Asian populations and are associated with larger and more advanced grade tumours at presentation. Screening is still an important avenue to detect these tumours at earlier stages where Asian patients present with similar prognostic indices as those of their Caucasian counterparts.

Recommendations:
1. Improve screening uptake and break down cultural stigmas in Asian women.
2. Expand our cohort, and adjust the results according to confounding factors such as SES, screening status.
3. Compare with other ethnic minorities.
4. Compare differences in BC risk factors between different ethnic groups:
   - Smoking, alcohol, BMI, DM
   - More importantly: Oestrogen exposure (age of Menarche, first child, parity, HRT/contraceptive use)

REFERENCES

3. Royal College of Pathologists. UK. Pathology reporting of breast disease in surgical excision specimens incorporating the dataset for histological reporting of breast cancer. May 2016