

Category: Epidemiology or Health Services

A 12 year population study of Ductal Carcinoma Insitu (DCIS): incidence, tumour characteristics and breast cancer recurrence in Queensland women

<sup>1</sup>Julie Moore; <sup>1</sup>Nathan Dunn; <sup>1</sup>Hazel Harden; <sup>1</sup>Euan Walpole; <sup>2</sup>Alexandra McCarthy

<sup>1</sup>Queensland Cancer Control Analysis Team Department of Health, Princess Alexandra Hospital

<sup>2</sup>PA Research Foundation Queensland, Australia

DCIS comprises about one out of every five breast cancers diagnosed in Australia each year. While the epidemiology of DCIS have been described elsewhere in Australia (Kricker et al, 2004), trends in incidence, tumour characteristics and rates of breast cancer recurrence in women living in Queensland have yet to be described.

3,486 women diagnosed with DCIS was identified from the Queensland Cancer Registry, information about tumour characteristics were extracted from pathology reports and linked with the Queensland Oncology Repository, a state wide cancer patient database that stores cancer diagnosis data, death data and treatment information from public and private hospitals.

Poisson regression was conducted to determine the association of tumour size with patient demographics. The Kaplan-Meier method was used to calculate the probability of diagnosis with invasive breast cancer by period of time following a diagnosis of DCIS.

The incidence rate of women diagnosed with DCIS in Queensland has increased from 11.5 per 100,000 in 2001-2004 to 15.4 per 100,000 in 2009-2012. Incidence increased in all ages and over half (62%) of DCIS cases were diagnosed in women aged 50 to 69. Over the study period DCIS incidence increased by 47% in rural and 22% in urban women.

More than half of DCIS cases were less than 20mm in size, while over 50% of cases were considered to be high grade. Intermediate [Risk Ratio (RR) 1.6,  $p < 0.001$ ] and high grade [RR: 2.1,  $p < 0.001$ ] tumours were more likely to be >20mm in size than low grade tumours.

Median follow-up time was 4.8 years. The probability of developing a subsequent invasive breast cancer after diagnosis of DCIS was 2.2% [CI 1.7-2.9] at 5 years and 5.6% at 10 years. When compared with women aged 50-59, women aged 20-39 were at the highest risk of recurrence [RR: 5.8,  $p < 0.001$ ].