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Contents

Acknowledgments..... iv
Abbreviations..... v
Summary vi
1 Introduction.....1
2 Incidence of DCIS3
3 Probability of invasive breast cancer following a diagnosis of DCIS8
4 Relative risk of invasive breast cancer for women diagnosed with DCIS.....12
5 Tumour size and nodal status15
Appendix: Technical notes20
Glossary.....24
References25
List of tables27
List of figures28

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Abbreviations

ABS	Australian Bureau of Statistics
ACD	Australian Cancer Database
AIHW	Australian Institute of Health and Welfare
ASR	age-standardised rate
CI	confidence interval
DCIS	ductal carcinoma in situ
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th revision
NBOCC	National Breast and Ovarian Cancer Centre
NMD	National Mortality Database
NT	Northern Territory
SA	South Australia

Summary

Ductal carcinoma in situ (DCIS) of the breast is a non-invasive lesion diagnosed in approximately 1,600 women each year in Australia. It has been estimated that around 40% to 70% of DCIS lesions may progress to invasive breast cancer if left untreated, but the evidence is uncertain. Although DCIS is almost always treated when diagnosed, there is increasing interest in better understanding the heterogeneity of DCIS characteristics and treatment implications.

A number of studies indicate that women with a history of DCIS diagnosis may be at increased risk of invasive breast cancers at a later time. These may be in the opposite breast or arise independently in the same breast as the DCIS. Risk factors common to DCIS and invasive breast cancer may be involved.

Existing Australian data on the risk of subsequent invasive breast cancers following a DCIS diagnosis are limited and have not been collated and analysed at a national level until now. This national study covered the period from 1995 to 2005. Results indicate that women who had been diagnosed with DCIS had, on average, a 5.3% risk of being diagnosed with invasive breast cancer within five years of the DCIS diagnosis. The same women had a 10.9% chance of being diagnosed with invasive breast cancer within 10 years of the DCIS diagnosis. These women were approximately four times as likely to develop invasive breast cancer as normally experienced by Australian women of similar age.

In Australian women who had been diagnosed with invasive breast cancer, the women with a prior diagnosis of DCIS generally had smaller invasive tumours and the cancer was less likely to have spread to regional lymph nodes. These characteristics are well-established prognostic indicators and are associated with higher survivals.

Women aged less than 40 years at the time of DCIS diagnosis:

- had an 8.4% chance of being diagnosed with a subsequent invasive breast cancer within five years of the DCIS diagnosis, compared with a 5.3% chance averaged over all ages
- had a 15.5% chance of being diagnosed with invasive breast cancer within 10 years of the DCIS diagnosis, compared with 10.9% averaged over all ages
- were nearly 20 times as likely as other Australian women in this age range to develop a subsequent invasive breast cancer, compared with approximately four times as likely when averaged over all ages.

However, women aged less than 40 years at DCIS diagnosis who subsequently developed invasive breast cancer generally had relatively small invasive cancers, although the likelihood of nodal spread was only slightly lower than that normally seen for all Australian women with invasive breast cancer in this age range.

This report supports evidence that women previously diagnosed with DCIS are at higher risk than other women of similar age of later developing invasive breast cancer. The management practice of placing these women under closer medical surveillance may be responsible for earlier diagnosis of their invasive breast cancers, which generally show smaller sizes and less evidence of nodal spread than seen in other women.