Screen-Detected Breast Cancer

NCIN Data Briefing

KEY MESSAGE:

The majority (53%) of screen-detected invasive breast cancers are small (<15mm diameter), 26% are Grade I and 78% are lymph node negative. Screen-detected cancers are more likely to receive breast conserving surgery than mastectomy.

5-year relative survival was 97.1% (95%CI 96.5%-97.7%) for women diagnosed with screen-detected invasive breast cancer in 2002/03

Introduction

2,116,588 women were screened by the UK NHS Breast Screening Programme (NHSBSP) between 1 April 2008 and 31 March 2009. 17,045 cancers were detected (8.1 per 1,000 women screened), of which 13,532 (79%) were invasive (6.4 per 1,000 women screened). Data from the All Breast Cancer Report show that 27% of all breast cancers were screen-detected.

Figure 1 shows the number of cancers detected by invasive status and age at screening appointment. Women are invited for screening once every 3 years in the eligible screening age range, which was 50-70 in 2008/09 (50-64 in Northern Ireland). Women over 70 can request a screening appointment. In 2008/09 some services were piloting an extended age range from 47-73 as outlined in the Cancer Reform Strategy.

Tumour characteristics

The screening programme aims to detect breast cancer early (i.e. small, low grade, lymph node negative tumours) to improve survival. Of the 13,297 surgically treated invasive cancers in women screened in 2008/09, 3,413 (26%) were Grade I, 7,054 (53%) Grade II and 2,712 (20%) Grade III. 78% of invasive cancers with nodal status known were lymph node negative. Figure 2 shows the invasive size of surgically treated invasive cancers. More than three quarters (76%) of cancers were 20mm or less. Only 236 cases (1.8%) were greater than 50mm in diameter. 1.2% had unknown size.

90% of invasive breast cancers with known ER status were ER positive. Of the invasive cancers with known PgR status, 76% were PgR positive. 12% of invasive breast cancers with known HER-2 status were HER-2 positive. Receptor status is used to determine suitable adjuvant therapies.

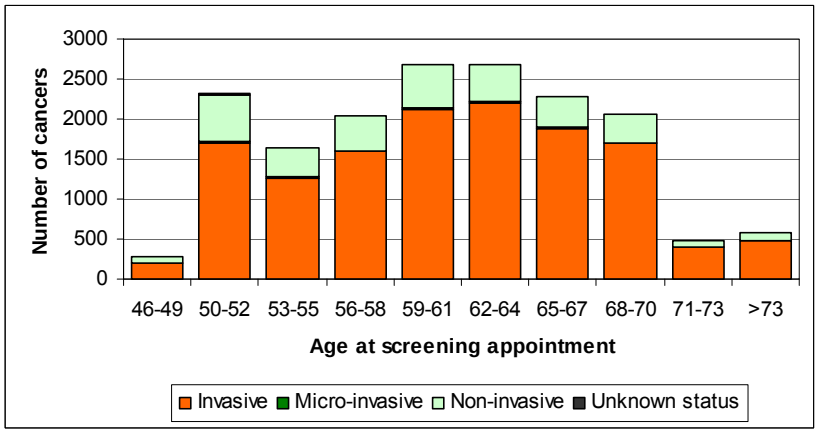

Figure 1 : Number of screen-detected breast cancers, by invasive status and age

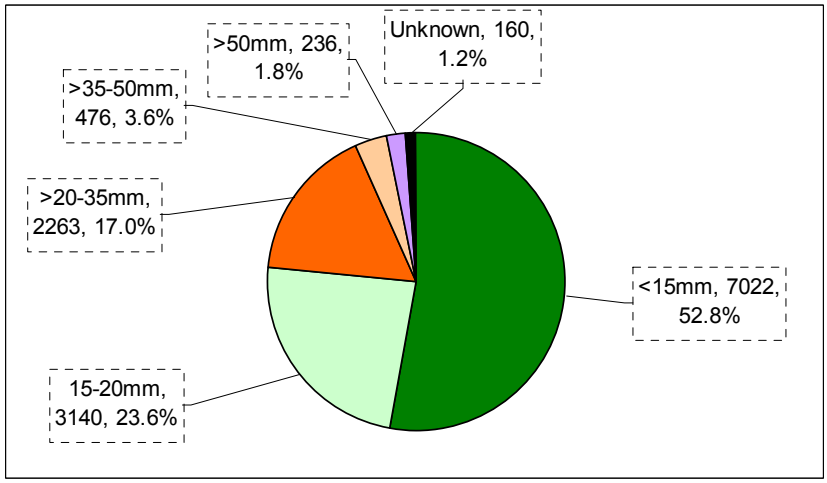

Figure 2 : Size of surgically treated invasive breast cancers

Surgical treatment

98% of patients with screen-detected invasive breast cancer had surgery recorded. The majority (74%) were treated with breast conserving surgery, and 26% with a mastectomy. Mastectomy rates increased with tumour size. 17% of invasive breast cancers with invasive tumour size <15mm were treated with mastectomy rising to 93% of invasive breast cancers with invasive tumour size >50mm. 21% of patients with node negative invasive breast cancers received mastectomy compared to 44% with node positive cancers. 14% of patients with invasive breast cancers treated with a mastectomy had immediate reconstruction.

Survival

Relative survival is defined as the observed survival in the patient group divided by the expected survival of the general population, matched by age and sex. A population without breast cancer would have a relative survival rate of 100%. 5-year relative survival continues to improve for women diagnosed with screen-detected invasive breast cancer (97.1% (95%CI 96.5%-97.7%) for women diagnosed in 2002/03). Women diagnosed with small, node negative, Grade 1 screen-detected breast cancer in the excellent prognostic group of the Nottingham Prognostic Index (NPI) had 5 year relative survival 101.8% (95%CI 101.1%-102.5%).

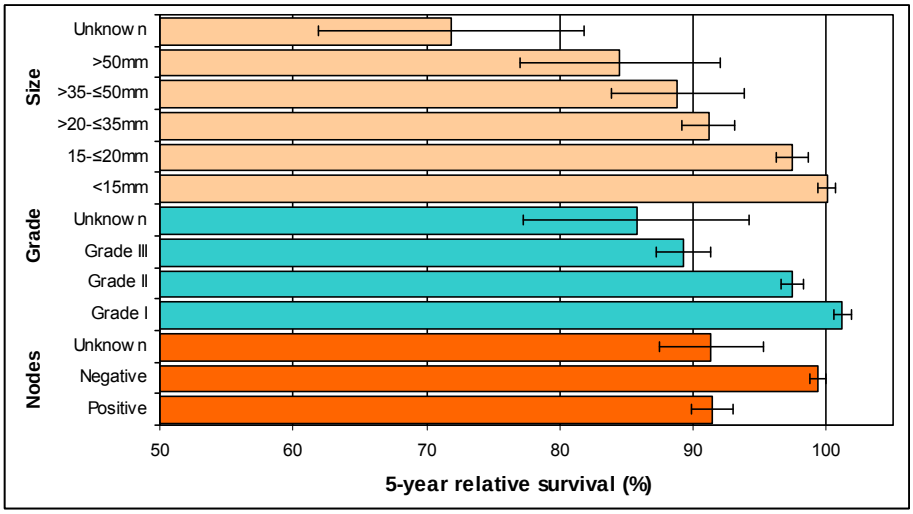

Figure 3: Variation in 5-year relative survival for women with screen-detected invasive breast cancer diagnosed in 2002/03

Further Information

This data briefing is based on "An audit of screen-detected breast cancers for the year of screening April 2008 to March 2009" (NHSBSP & ABS, May 2010). The full NHS Breast Screening Programme publication, including methodology, is available to download from the NHS Breast Screening Programme website www.cancerscreening.nhs.uk and the WMCIU website www.wmpho.org.uk/wmciu/.

This briefing focuses on invasive breast cancer. The management of non-invasive breast disease is being studied in the Sloane Project which is funded by the NHS Breast Screening Programme. More information can be found at www.sloaneproject.co.uk.

FIND OUT MORE:

West Midlands Cancer Intelligence Unit

West Midlands Cancer Intelligence Unit is the lead Cancer Registry for breast cancer

http://www.wmpho.org.uk/wmciu

Other useful resources within the NCIN partnership:

Cancer Research UK CancerStats – Key facts and detailed statistics for health professionals

http://info.cancerresearchuk.org/cancerstats/

The National Cancer Intelligence Network is a UK-wide initiative, working to drive improvements in standards of cancer care and clinical outcomes by improving and using the information collected about cancer patients for analysis, publication and research. Sitting within the National Cancer Research Institute (NCRI), the NCIN works closely with cancer services in England, Scotland, Wales and Northern Ireland. In England, the NCIN is part of the National Cancer Programme.