

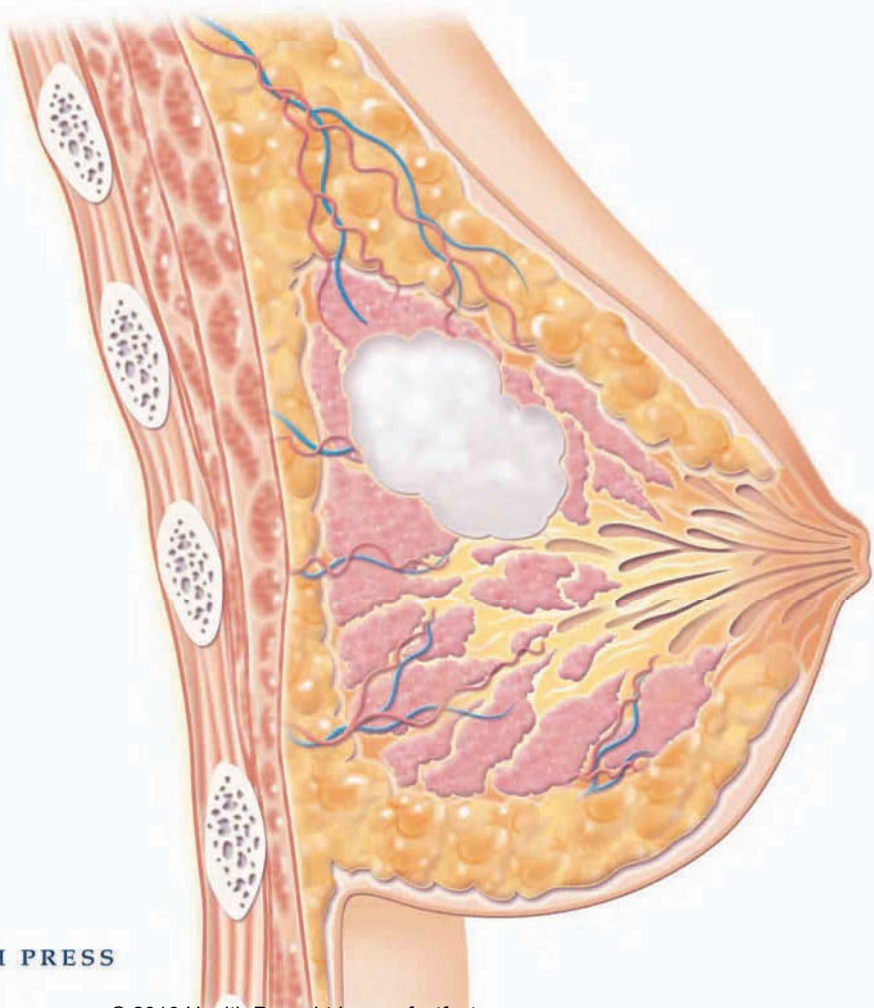
Fast Facts



Fast Facts: Breast Cancer

Jayant S Vaidya, David Joseph and Alison Jones

Fourth edition





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Declaration of Independence

This book is as balanced and as practical as we can make it.
Ideas for improvement are always welcome: feedback@fastfacts.com

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'There is life after mastectomy' and 'Reconstruction'. Portraits by Heath Rosselli, reproduced by kind permission of the artist.

Introduction

We are currently in the most exciting period for the management of breast cancer. Great progress has been made and is accruing at an ever-increasing rate.

In most parts of the world, mortality from breast cancer has been reduced dramatically over the last 10 years. A large proportion of this improvement can be attributed to the changing paradigms about the disease and new treatments, proven in randomized clinical trials and consequently applied widely. More precise diagnosis, refined treatments and advances in adjuvant systemic treatment are being adopted in the general population.

The past few years have offered the beginnings of a fundamental change. Our conceptual understanding of malignancy is evolving from that of a pathological entity to that of a regulatory process. As a consequence, the period for intervention extends from the time preventative measures are taken, years before a clinical tumor is likely to appear, to long after local resection of an obvious mass. This has significant implications for both the patient and the healthcare system, as the net effect is to increase the number of patients and extend the period of follow-up.

There has been an explosion in information technology and easier access to information for patients and their families and medical advisors. Patients can now be more knowledgeable and assume a more active role in their medical management.

Multidisciplinary management of breast cancer is now the standard of care. The evidence for this is mainly circumstantial; however, there is some evidence that a certain minimum volume is required to maintain a high quality of outcome.

Cancer centers are no longer just venues for treatment, but are becoming regional resources offering guidance in decision-making, leading innovations in treatment, education and training, as well as collecting valuable data for evaluation. The need to balance choices is a theme repeated throughout the book, and *Fast Facts: Breast Cancer* attempts to provide a context for putting the risks and benefits into

perspective. The purpose of this book is to sort out the facts from the fancies and fallacies, and to provide the busy clinician or clinical nurse specialist with rapid access to information that will make their difficult and delicate task that much easier. We owe it to our patients to provide them with comprehensive care and must make every effort to maintain their integration within the community throughout the course of a chronic illness.

Breast cancer is the most common form of cancer among women in industrialized countries, accounting for about 18% of all female cancers. Although mortality is declining in some areas, breast cancer remains the leading cause of death among women aged 35–55 years. In the UK, for example, it causes about 13 000 deaths each year, and about 35 000 new cases are diagnosed annually, while in the USA, there are about 217 500 new cases and 40 580 deaths.

It is important to recognize that the oft-repeated statistic that 1 in 10 women get breast cancer can be misinterpreted, especially by young women. The absolute risk of being diagnosed with breast cancer is about 1.5% at 40–50 years of age, 2.5% at 50–60 years of age and reaches 1 in 12 only when all those up to 100 years of age are included.

Classic epidemiological studies repeated worldwide have established risk associations with breast cancer. These associations have been bolstered by tissue and animal studies. The following observations, which were made before the advent of contemporary molecular genetics, continue to hold true.

The incidence of breast cancer increases with age; approximately 50% of breast cancers occur in women aged 50–64 years, and a further 30% occur in women over the age of 70 years. The incidence also shows marked geographical variations; in general, the highest incidences are seen in Western countries, and the lowest in Asian and African countries (Figure 1.1). This illustrates the importance of environmental risk factors, as women from low-risk countries, such as Japan, who emigrate to higher-risk countries ultimately develop the higher risk associated with their new country. Genetic factors are also important, however, as the natural history of breast cancer appears to vary between populations. In Japanese women, for example, the disease appears to develop earlier and to take a more benign course than in Western women, whereas black African women also develop breast cancer earlier, but suffer from much more aggressive disease. Also of striking significance is the rapid rise in incidence in some European countries,

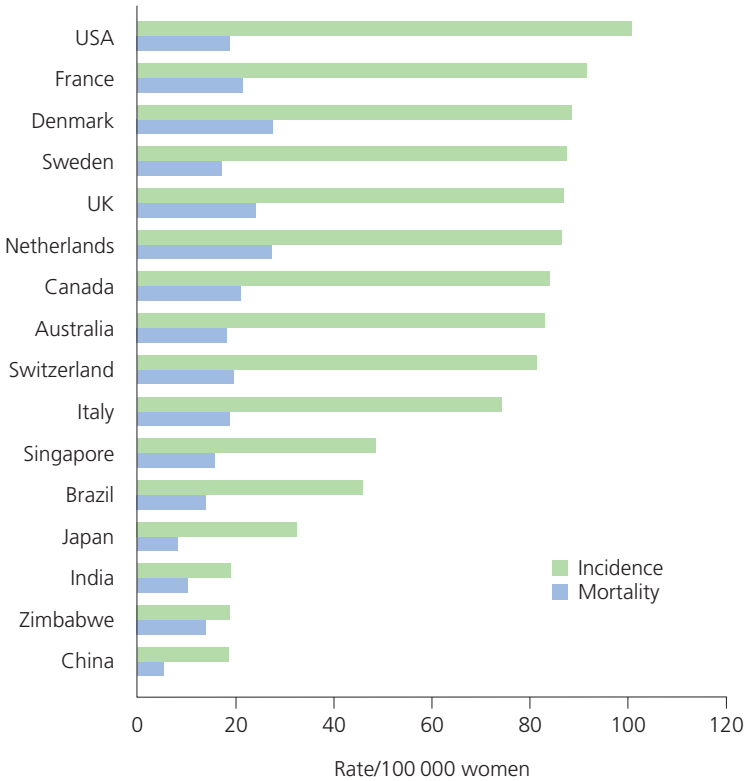


Figure 1.1 Breast cancer incidence and mortality show marked geographical variations. Data from Ferlay J, Bray F, Pisani P, Parkin DM. *GLOBOCAN 2002. Cancer Incidence, Mortality and Prevalence Worldwide*. International Agency for Research on Cancer CancerBase No. 5, version 2.0. Lyon: IARC Press, 2004.

such as Spain, as their prosperity begins to approach that of the European Union as a whole. In addition to age and geographical origin, numerous risk-modifying associations have been identified (Table 1.1).

Age

Age is by far the greatest risk factor for breast cancer in women. Of the approximately 60% of breast cancers for which identifiable risk factors can be found, age accounts for more than half.

Symptoms of breast cancer

Although a lump in the breast is the most common presenting symptom of breast cancer, a variety of other symptoms may be present (Table 4.1).

Lumps resulting from breast cancer are generally single, hard and painless, and may be irregular in shape. Fibroadenomas, however, may also appear as single, hard lumps. Typically, breast cancers are about 2 cm in diameter by the time they become large enough to be palpable. Approximately 60% arise in the upper outer quadrant of the breast, but any area of the breast can be affected.

Pain in the breast is seldom due to cancer. The most common cause is the normal periodic pain during the menstrual cycle (cyclic mastalgia). In many cases, it is due to costochondritis (Tietze's syndrome) and it is

TABLE 4.1

Symptoms that may indicate breast cancer

- Lump in the breast
- Dimpling of the skin of the breast
- Bleeding or discharge from the nipple
- Breast pain
- Changes in the size or shape of the breast
- Involution or inversion of the nipple
- Lump in the armpit
- Swelling of the arm (lymphedema)
- Ulceration of the skin
- Symptoms of secondary tumors, such as bony pain, loss of appetite, breathlessness and headache

possible that referred pain from this may explain many cases of non-cyclical mastalgia; the pathophysiology of Tietze's syndrome is poorly understood. However, pain does not exclude a cancer.

Bleeding from the nipple is a rare symptom of breast cancer; fewer than 3% of women report bleeding as a first symptom. The likelihood of cancer is increased if a lump is found on examination. In the absence of a lump, the most common cause of bleeding or bloodstained discharge is benign duct papilloma. In postmenopausal women, discharges from the nipple that are not bloodstained are usually due to duct ectasia. Discharges may also occur during early pregnancy, after breast-feeding, and during treatment with certain drugs, such as oral contraceptives, some antihypertensive agents and some antidepressants. Persistent discharge from a single duct in the nipple needs to be investigated, especially if a dipstick is positive for blood. The usual method is microdochectomy (removal of a single duct), or in older women, total duct excision; the value of ductoscopy is being investigated.

Changes in size or shape of the breasts may also indicate breast cancer. The affected breast may increase in size or become pendulous; conversely, in advanced breast cancer the breast may shrink owing to loss of normal breast tissue and retraction because of cicatrization. The skin may dimple or pucker because of edema and infiltration of Cooper's ligaments, and the nipple may become inverted. The veins in the breast may become more prominent as the tumor enlarges.

Skin involvement. In advanced cases, the tumor may involve the skin, leading to ulceration (Figure 4.1). Blockage of the lymphatic circulation can cause lymphedema, resulting in swelling of the arm. Accumulation of fluid in the dermis, which maintains its thickness at the sites of sweat glands and hair follicles, causes the typical 'peau d'orange' (orange skin) appearance. This is a late sign of cancer (stage T4).

Lymph nodes. Occasionally, it is not possible to identify the primary tumor, and the only evidence of breast cancer is enlarged lymph nodes.