

Indian women at higher risk of developing breast cancer

by Laura Boon



An Indian woman has a 1/13 chance of developing breast cancer and is thus at significantly greater risk to the disease than her white or black counterparts, whose risk is 1/16 and 1/57 respectively

This is according to Dr Anil Bramdev, a pathologist and member of the National Pathology Group (NPG) practising in Durban.

"Our KwaZulu Natal practice sees a disproportionate number of Indian breast cancer patients. On average, we are diagnosing two cases a day," Dr Bramdev said, adding that many of the cancers were familial:

the disease is passed genetically from generation to generation.

"Most familial breast cancer is the result of a mutation of the BRCA 1 and 2 genes. In 80% of families with a history of four or more cases of breast cancer, either BRCA1 or BRCA 2 is responsible," he said.

Individuals with a mutation of the BRCA 1 gene also carry a 40% risk of contracting ovarian cancer by the age of 70. Carriers of the BRCA 2 gene have a lower incidence of ovarian cancer but their families do have a higher rate of male cancer.

Of particular concern to Dr Bramdev is the

large increase in the number of younger patients (under age 40) who are contracting breast cancer. The standard procedure for screening for breast cancer is regular physical examinations, followed by an annual mammogram from age 40 and gene testing if there is a query.

However, Dr Bramdev said that a normal mammogram can miss up to one third of lesions so in cases where there is a strong family history of breast cancer, it is important to do genetic testing as soon as possible, even when a woman is in her early twenties.

"Unfortunately if your

mother and elder sister or an aunt developed breast cancer, you are a very high risk to get the disease as well. For your long term well being, it is critical to detect the disease as early as possible," Dr Bramdev said.

Early detection is critical to successful treatment. If breast cancer is detected in stage one, when it is confined to the breast, there is an excellent prognosis for the patient as the cure success rate is 90%. At this stage, it is still possible to remove the cancer with a wide incision and no chemotherapy may be necessary.

In stage two the cancer spreads to the lymph

Table 1: Ages of cases and controls

AGE	BRCA 1 (n=118)	BRCA 2 (n=78)	All familial (n=440)	Controls (n=547)
<30	12 (10%)	1 (1%)	28 (6%)	24 (4%)
30-39	45 (38%)	17 (22%)	130 (30%)	163 (30%)
40-49	40 (34%)	33 (42%)	147 (33%)	144 (26%)
50-59	17 (14%)	14 (18%)	75 (17%)	105 (19%)
60-69	2 (2%)	7 (9%)	41 (9%)	56 (10%)
≥ 70+	2 (2%)	6 (8%)	19 (4%)	55 (10%)

nodes under the armpit. Both surgery and chemotherapy are needed to treat the patient and the prognosis drops to 50%. During stage 3, the cancer spreads to neck and the other side of the chest, and in stage four, it spreads to the other organs, making recovery unlikely.

Another important test that determines behaviour and prognosis in breast cancer is HER2 test, also known as c-erb. HER2, the Human Epidermal growth factor Receptor 2, is a protein

found on all cell membranes. It plays an important role in regulating cell growth, survival and cell differentiation. It is present in 20% - 30% of all breast cancers. Amplification of the gene results in over expression of the HER2 protein resulting in more aggressive tumour growth.

Herceptin, the HER2 antibody treatment, is used as single agent for the treatment of HER2 metastatic breast cancer (i.e. breast cancer that has spread) in patients

who have already received chemotherapy. It significantly improves the overall survival rate in these patients.

Illustration

Table 1, pulled from an international study on BRCA gene testing, illustrates an age spread of patients who are BRCA gene positive and the young ages of detection.

[Issued on behalf of the National Pathology Group by Health DiRx-ions. For further information, contact Laura Boon on (011) 658-1581.]