

Tata hosp has been working with 2,000 cancer-prone families to test & take preventive measures

## PREVENTING THE DISEASE

Any cancer can be hereditary, but cancers of the breast, ovary, colon, thyroid and some childhood cancers like retinoblastoma (of the eye) are more likely to be hereditary

Hereditary cancers comprise five per cent of all cancers, which, due to genetic mutations, predispose this group to high risks of developing cancer

In families enrolled at the centre, a change in the genetic material or DNA predisposes those who carry it, to developing cancer. This change, called a germ-line mutation, may be passed down from parent to child, with each carrying a 50% risk of inheritance



Prashant Chauhan

# Nipping the Big C in the bud, much before Jolie did

## WHO'S AT RISK?

You should get evaluated for inherited cancer predisposition if:

Several family members have had cancer of any kind

A relative with a confirmed cancer genetic mutation

Family members diagnosed at younger ages than in the general population (eg. below 35 for breast cancer or in the 40s for colon cancers)

More than one primary cancer or in more than one location

Rare or unusual cancer

Other genetic disorders/syndromes in cancer patient or family

Concerns about hereditary issues in cancer-affected families

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Much before Hollywood star Angelina Jolie put the spotlight on cancer prevention by undergoing preventive double mastectomy and surgical reconstruction of breasts given her chances of developing cancer, this trend of preventive testing and treatment has been going on at a centre of the Tata Memorial Hospital.

Over 2,000 cancer-prone Indian families have been working with the hospital with a similar objective as Jolie — a new way of looking at the likelihood of cancer and taking preventive measures.

An important preventive step, considering that the hospital sees about 500 cases of hereditary cancer every year.

The families are enrolled at Tata Memorial Hospital's (TMH) Cancer Genetics Unit at Advanced Centre for Treatment, Research and Education in Cancer (ACTREC) in Kharghar. The families hope to determine whether they are at risk of developing cancer in future, considering that at least one blood relative has developed cancer.

However, this testing may not be limited to breast cancer alone. The lungs, thyroid gland, ovaries, eyes, intestine and stomach too are at risk.

At the genetics unit at ACTREC, blood tests and genetic studies reveal whether a cancer is developing and detect it at an early stage. Some of the families have members who underwent preventive surgery for thyroid gland and ovarian cancer risk.

To reduce the burden of family cancer legacies, the hospital is working with these families with likely hereditary cancer syndrome.

"This centre is a special initiative for people who come in suspecting hereditary cancer after somebody in the family develops cancer. Specific screening and preventive strategies can reduce risk of developing cancer or detect them in early and curable stage," said Dr Rajiv Sarin who started this work.

In the case of certain families enrolled at the centre, even up to nine people have been found to be at risk to develop cancer in future. In one family, six people underwent preventive surgery for removal of the thyroid gland

as part of preventive treatment because in future as they have chance to developing cancer.

In the city, a private lab conducts such kind of gene test but it very costly. Also, no counselling for risk management is offered. But, at ACTREC and a Chennai-based centre the test is done and proper treatment given.

Consultation at ACTREC's genetics centre usually involves a review of medical history of the patient and the family besides some education in basic cancer genetics. "There is also a personalised cancer risk assessment. This is based on established models," Dr Sarin said. Then there are discussions of the possible option of genetic tests, various medical recommendations in order to make an early detection in the eventuality of cancer developing as well as lifestyle changes for risk reduction and prevention.

He added that, patients are required to bring details of cancer history of affected individuals in the family and age at diagnosis is extremely important for an accurate risk assessment.

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