MedicalXpress

Jolie surgery 'dramatically' lowers cancer risk: experts

March 24 2015

It is a hard personal choice, but removing healthy fallopian tubes and ovaries effectively slashes the cancer odds for women like Angelina Jolie who carry a risk-boosting gene mutation, experts said Tuesday.

Carriers like the Hollywood star, who has had the surgery two years after a selective double mastectomy, face a "sky-high" risk of developing breast or ovarian cancer, said Per Hall, an oncologist at Sweden's Karolinska Institutet.

Hall told AFP he would "absolutely" advise women who carry the inheritable BRCA1 gene alteration to consider preemptive surgery.

"It is of course an extremely sensitive issue, because as soon as you remove the ovaries you can't get pregnant anymore and if you remove the breasts you can't breastfeed," he told AFP by telephone.

"I would say any woman who is a carrier of these genes and has delivered the children she wants to deliver during her lifetime, she should definitely be encouraged to discuss the issue."

Carriers of the BRCA1 mutation, which is more dangerous than BRCA2, have a lifetime risk of about 80 percent of developing breast cancer, compared to about 10 percent for women without it.

For ovarian cancer, the elevated risk was about 40-50 percent—compared to about 1.5 percent for the general population.

About 15 years ago, the risks were not well understood, fuelling debate about the wisdom of removing perfectly healthy organs.

But today, "there is absolutely no dispute," said Hall.

Removing the fallopian tubes and ovaries limits not only lowers the odds of developing ovarian cancer but also of breast cancer, he added, by curbing the release of risk-boosting female sex hormones.

Even women who have had a mastectomy remain at risk, as some tissue often stays behind.

Thus by opting to follow her mastectomy with a dual fallopian tube-ovary removal (salpingo-oophorectomy), Jolie has "dramatically" reduced her risk, said Hall.

"You can say she has a very, very low risk"—even lower than that of women without the genetic alteration.

About 0.2 percent, or one in 500, women carry a harmful mutation in the BRCA1 or BRCA2 gene (BRCA stands for BReast CAncer susceptibility).

The genetic flaw accounts for a small number of cancers overall, but has been found in half of families with multiple cases of breast cancer, and in up to 90 percent of those with both breast and ovarian cancer.

BRCA1 carries a higher risk than BRCA2.

People of Ashkenazi Jewish descent are more likely to carry a BRCA mutation, as are certain Norwegian, Dutch, and Icelandic individuals, according to the US-based National Cancer Institute (NCI).

Carrying a gene mutation does not mean a woman will necessarily develop cancer, and lifestyle factors like alcohol use, overweight, physical inactivity, delayed pregnancy and not breastfeeding may also contribute.

Breast cancer is the leading cancer killer of women aged 20-59 worldwide, causing about 1.38 million new cases and claiming some 458,000 lives every year, according to the UN's World Health Organization (WHO).

Getting ovarian cancer is less common, with a lifetime risk of about one in 75.

But it is also more difficult to find because it develops deep inside the body with few symptoms.

More genes in future?

"It is harder to diagnose ovarian tumours than breast tumours and the treatment is more complicated," said Dominique Stoppa-Lyonnet, a genetic oncologist at Paris's Institut Curie.

"These are the reasons why we recommend ovary removal" much more easily than a mastectomy, for which the alternative is regular mammograms and physical examinations, she added.

Cancer survival rates vary greatly between developed nations and poor countries, which have fewer early-detection programmes.

But the cost of genetic screening can be prohibitive, ranging from several hundred to several thousand dollars for a test, according to the NCI.

The WHO advises against mass genetic screening for BRCA1, focusing instead on women whose close family members have developed cancer.

"We are expanding beyond these two genes and probably in the future we will add maybe 100 to 150 markers that also influence the risk of breast cancer," said Hall.

"It is getting more complex in trying to understand the risk. But this is where we're heading."