

**BRCA test, only for females of high familiar risk. Preventive mastectomy and ovaectomy only for consideration of whom has a BRCA mutation AND high familiar risk (around 0,04% of the female population). Preventive measures lack clear scientific base.**

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I have just published a long paper about the BRCA genes and the "preventive activities to avoid breast and ovarian cancer" with the best available data, to help patients and health professionals take decisions about these questions. It is in Spanish, but just in case, (<http://equipocesca.org/?p=5905233>). At least you can follow the links (references).

The summary is simple

1. Nothing to comment about a personal decision in a patient (Angelina Jolie) except empathy and compassion, but a lot to comment about her proposals to others.
2. According to [her publication](#) she does not belong to a "family of high risk for breast cancer".
3. The 87% risk of developing breast cancer refers to age 70 years (or 75) and says nothing about severity and nothing about mortality.
4. Preventive mastectomy does not rule out breast cancer, neither ovaectomy rule out ovarian cancer.
5. We all have BRCA genes in all our cells; they are "normal" and necessary genes; having mutations of BRCA is not a "death sentence", just a "risk factor" associated with an increase incidence of breast and ovarian cancer, but these cancers have better prognosis than those cancer in female with no mutations of BRCA.
6. Mutations of BRCA genes are very infrequent in the general population (2%) so 98% of the female population has "normal" BRCA; between female at "average risk" (because her family history) prevalence is 0.12%; if the familiar risk is "moderate", 1.5%; in "high" familiar risk, 8.7%.
7. Most females belong to the group of average familiar risk (92.7%); a few belong to the moderate familiar risk group (6.9%); and only 0.4% belong to the high familiar risk group.
8. BCRA test is not a "golden standard"; around 15% of the results are false negative, and around 13% have no clear interpretation; by the way, BRCA test is a patent and the genetic

industry use the monopoly not to share important scientific information about the test and its best use in clinical practice

9. We cannot recommend "screening" (the whole population) for BRCA, because its low prevalence (and in this case, low predictive value); expected number of breast cancer in mutation carriers of a population of 100000 females of average familiar risk is 82; of moderate familiar risk is 748; and high familiar risk is 4925; about ovarian cancer, 32, 616 and 1422 respectively.
10. There are around 40 females per 100000 (0.04%) who are at the same time a) mutation carriers AND b) members of the group of high family risk; that means around 6800 females in Canada (with a female population of around 17 millions); these are the females who should decide about preventive mastectomy, preventive ovariectomy, chemotherapy, or intensive follow-up with MRI but the scientific background for the decision is very weak.
11. It was unnecessary to name the hospital where the surgery was performed; by the way a very expensive and difficult surgery, with complications in 21% of cases and 49% of re-intervention.
12. It was also unnecessary to mention the "huge number" of female who die because breast cancer (half a million per year) in the whole world; these deaths are terrible but we need to remember that the world female population is almost four billion, and that around half a million die daily, mainly because poverty, hunger, difficult access to water, war and lack of a health system.