BRCA1 linked to development of brain's cortical layers

It is well known that females with a BRCA1 gene mutation are at a much higher risk of developing breast and ovarian cancers. Now, researchers from the Salk Institute in La Jolla, CA, have discovered what they describe as a "crucial" link between brain development and the BRCA1 gene.

Some women who are genetically susceptible to breast cancer, such as those with BRCA1 mutations, experience brain seizures. In their study, the team found that the BRCA1 gene played an important part in healthy brain development in mice – a finding that may help explain the occurrence of such brain seizures.

To reach their findings, the research team first deleted the BRCA1 gene in neural stem cells in mice. This led to the underdevelopment of certain brain regions.

They found that the cortex of the brain only developed two layers, rather than the usual six layers. The cerebellum of the brain is usually made up of several folds, but in this case, it was almost completely smooth. The brain region that processes odor information – the olfactory bulb – was poorly developed and severely disordered.

Read the full, original story: Scientists find link between brain development and breast cancer gene