

## FACT SHEET 13

### ● Is there a Link Between Ovarian Cancer and Using Talcum Powder?

*There have been concerns over a number of years that use of talcum powder on the genital area increases the risk of ovarian cancer. Ovacome asked Adam Rosenthal and Ian Jacobs to prepare a brief summary of the evidence in order to clarify the situation.*

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Most of the evidence linking the use of talc on the genital area with ovarian cancer is based on asking women with and without ovarian cancer if they have used talc.

In 2003 a meta-analysis pooled the results of 16 studies of this type, involving nearly 12,000 women. The analysis concluded that talc use increased the risk of ovarian cancer by around a third.

However, there are a number of doubts and concerns about the design and results of the studies analysed:

- There was no consistent evidence that increasing use of talc increased the risk. This is strange, as other cancer risks are related to exposure to the risk factor, e.g. the more you smoke the more likely you are to get lung cancer. If talc really does cause ovarian cancer, why didn't all the studies show that the risk of ovarian cancer was related to the amount of talc used?

- Case-control studies of the type analysed can suffer from bias, which can lead to inaccurate results. For example, women with ovarian cancer understandably seek a cause for their disease and may have been more likely to remember using talc than those who did not have cancer.

More recently a large well-designed study involving nearly 80,000 women performed as part of the Nurse's Health Study in the US found no link between talc use and overall ovarian cancer risk. There was a possible weak link between one particular type of ovarian cancer ("serous" ovarian cancer), but even this link only just reached statistical significance, so may have been due to chance. Furthermore, the risk in talc users was not increased amongst those women who had not had their Fallopian tubes ligated (blocked) in order to have a sterilisation. This is odd because one would expect unblocked tubes to increase any real risk from talc, as they would allow the talc to reach the ovaries using the same mechanism that enables sperm to ascend through the genital tract to allow pregnancy to occur.

Even if the risk of ovarian cancer is increased, the meta-analysis suggests that it is at most increased by around a third by using talc. Although this may sound frightening, to put it into context, combined smoking and drinking increase the risk of another cancer, oesophageal cancer, over 30-fold. It should also be remembered that ovarian cancer is a rare disease, and increasing a small risk by a third still gives a small risk.

The other evidence of talc's association with

ovarian cancer comes from the studies which have shown the presence of talc within the ovaries of women with the disease. There is also doubt about the significance of these studies:

- Not all studies excluded the possibility that the talc came from the protective gloves worn by the scientists examining the ovaries, rather than from talc applied to the genital area.
- The number of ovaries studied was small.
- Talc was found in normal ovaries as well as cancerous ones.
- Finding talc in an ovarian cancer patient is not the same as proving that the talc caused the cancer.

One final piece of evidence worth mentioning is the recent discovery that women who use talc appear to have lower levels of an antibody (“MUC1”) in their bloodstream compared to women who don’t use talc. Because high MUC1 levels are associated with better prognosis in ovarian cancer patients, it is theoretically possible that any substance that reduces levels of MUC1 could somehow increase a woman’s susceptibility to ovarian cancer. However, this tenuous link between talc and ovarian cancer risk remains pure speculation at present, and given the absence of convincing data from case-control and epidemiological studies, it is hard to imagine that talc is a significant cause of ovarian cancer.

We still do not know what really causes ovarian cancer, but it is likely to be a combination of many different inherited and environmental factors, rather than one single agent such as talc.

We do know that women who become pregnant or take the oral contraceptive pill are at considerably lower risk of developing ovarian cancer and this beneficial effect is proved much more convincingly than the link between talc and ovarian cancer.

We also know that women with two or more close relatives with ovarian cancer or breast cancer may be at increased risk of developing ovarian cancer.

It is also important to keep in mind the fact that, out of the millions of women in England and Wales many of whom use talc, only a very small proportion will develop ovarian cancer each year. So even if talc does increase the risk slightly, very few women who use talc will ever get ovarian cancer. In addition if someone has ovarian cancer and used talc, it seems highly unlikely that the use of the talc was the reason they developed the cancer.

Further studies will be needed to work out exactly what role, if any, talc use plays in ovarian cancer.

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