

Talcum Powder and Cancer

Introduction

Talcum powder is made from talc, the softest mineral on earth. Talc deposits are often located near asbestos ore since the two minerals are chemically similar. This triggered fears in the 1960s that mined talc could be contaminated with asbestos and cause cancer. Home talc products have been asbestos-free since the 1970s but the debate continues today. Studies on a possible link between body talcum powder and ovarian cancer have produced mixed results.

Current evidence

Since 1973, talcum powders for use at home have been required by law to be asbestos free. A number of studies have been conducted on the link between ovarian cancer and using asbestos-free talcum powder on the external genital (perineal) area. It is hypothesised that asbestos-free talc body powders could produce an inflammatory response that may increase the risk of cancer.

In 2003, a meta-analysis of 16 studies and 11,933 participants found that an increase in ovarian cancer risk was associated with the use of talc, but did not find a causal link. The increase in risk was attributed to other (confounding) factors. For a causal link to be established, higher doses should lead to increased risk (dose-response). As the effect was not dose dependent, interpretation of the result should be cautious.¹

More recent studies have continued to produce inconsistent results.

A pooled analysis of eight case-control studies in 2013 showed that genital powder use was associated with a modest increased risk of various subtypes of ovarian cancer.² But in 2014, a large cohort study found that perineal powder use did not appear to influence ovarian cancer risk. Researchers followed 61,576 postmenopausal women for an average of 12.4 years. Unlike case-control studies, this type of prospective study is not affected by recall bias, where women who develop ovarian cancer are more likely to recall their earlier exposure to risk factors.³

The most recent case-control study found that genital talc use was associated with an increased risk of ovarian cancer, with the risk increasing with greater use. The study of more than 4,000 women in two US States identified certain sub-types of ovarian cancer that were more likely to be associated with talc use.⁴

Overall, there is inconsistent evidence in humans of a weak association between perineal use of talc-based body powder and an increased risk of ovarian cancer. Some, but not all, studies have found a modest excess in risk. In light of the inconclusive state of the evidence, the International Agency for Research on Cancer (IARC) classifies talc-based body powders as *possibly* carcinogenic to humans (Group 2B).⁵ Further research would be needed to determine if and how talcum powder might increase the risk of ovarian cancer.

The US Report on Carcinogens is a list of known or reasonably anticipated human carcinogens (cancer causing substances). Magnesium trisilicate, from which talcum powder is produced, is not included in this list.⁶

Summary

The current evidence is inconsistent and insufficient to conclude that the use of talcum powder on the external genitals increases the risk of cancer, specifically ovarian cancer. If there is a risk, it is likely to be fairly small. While the matter remains unresolved, women who wish to take all precautions could avoid the use of genital powders or opt for powders that contain cornstarch instead of talc.

References

1. Huncharek, M., J.F. Geschwind, and B. Kupelnick, *Perineal application of cosmetic talc and risk of invasive epithelial ovarian cancer: a meta-analysis of 11,933 subjects from sixteen observational studies*. *Anticancer Res*, 2003. 23(2C): p. 1955-60.
2. Terry, K. Karageorgi, S. Shvetsov, Y. et al. (2013) *Genital powder use and risk of ovarian cancer: a pooled analysis of 8,525 cases and 9,859 controls*. *Cancer Prev Res (Phila)*. 6(8): 811-821.
3. Houghton, S. Reeves, K. Hankinson S. et al. *Perineal Powder Use and Risk of Ovarian Cancer*. *J Natl Cancer Inst* (2014) 106(9).
4. Cramer, D. Vitonis, A. Terry, K. et al. (2016) *The Association Between Talc Use and Ovarian Cancer. A Retrospective Case-Control Study in Two US States*. *Epidemiology*. 27:334-346.
5. International Agency for Research on Cancer (IARC), *Volume 93: Carbon Black, Titanium Dioxide and Non-Asbestiform Talc*, in *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, IARC, Editor. 2006, IARC: Lyon, France.
6. U.S. Department of Health and Human Services, *12th Report on Carcinogens*. 2011, Public Health Service - National Toxicology Program.