Is Talc Really Dangerous? Two Dissident Views

■ With regard to the article "Warn Your Patients Against Talc in Feminine Hygiene" which appeared in the May 1985 issue, how absurd can an article be? Would the author have us believe that talcum powder flows against the stream of the vaginal wash, through the stream of the cervical mucus wash, through the uterus and the tubes, and then deposits itself on the ovary? Does the tough ovarian capsule then part like the Red Sea so that the talc can be incorporated into the ovarian parenchyma to form a nidus for adenocarcinoma?

A sperm, which is mobile and guided by chemotaxis, can only progress from the introitus into the abdominal cavity with great difficulty.

The condensed reading section states "One study found talcum particles deeply imbedded in 10 out of 13 human ovarian cancer tissue samples." I suggest that a review of those slides would indicate that the talc particles could only have become imbedded during the course of surgery.

Surely there must be some common sense in medicine. The author has drawn a conclusion, and given "specialist" advice on the basis of questionable circumstantial evidence.

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■ The message of the interview "Warn Your Patients Against Talc Use in Feminine Hygiene" is stronger than the evidence to substantiate it.

There is a significant collection of scientific studies in animals and in humans concluding that there is no association between talc and cancer of any kind.[1,2] And, in fact, when Dr. Cramer published his study almost three years ago, he stated that "the evidence is rather tenuous in regard to the relationship between talc and ovarian cancer." However, in continuing to promote the hypothesis, audiences are left with the impression that there is a strong scientific basis for concern.[3]

Many long-term studies in animals by a wide variety of dosing routes, including direct subbursal[4] and intraovarian injection of talc have failed to produce any cancer. Human studies on talc and cancer incidence have been conducted among miners and millers around the world. These studies found that industrial exposure to talc, even at levels thousands of times higher than lifetime consumer exposure, presented no significant risk of cancer.[1]

In addition, there have been a number of studies examining the possible mutagenic effects of talc, and in none of them was talc found to affect the genetic material in the cell. The most thorough of these studies was one sponsored by the Food and Drug Administration.[5] This comprehensive study employed four different tests of mutagenic activity, and there were no indications that talc, even at the very high dose levels, had any genotoxic effect.

In an editorial review[6] of the extensive research data on talc, it was concluded that ". . . there is no reason to believe that normal human exposure to cosmetic talc has in the past led . . . to cancer at any site. . . ."

A team of doctors from the National Cancer Institute and George Washington University in Washington, D.C., conducted an epidemiological study in a similar manner to Dr. Cramer's, and in an October 14, 1984 letter in *JAMA* (page 1844), contradicted Dr. Cramer's paper. They examined data on talc use collected as part of a study of epithelial ovarian cancer. After comparing the talc usage of 135 women with ovarian cancer to the talc usage of 171 women without the disease, they concluded that there was "no overall association between talc use and risk of ovarian cancer."

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A necessary assumption for Dr. Cramer's hypothesis is that talc migrates from the perineum through the genital tract, to the ovaries. To test this assumption, the Cosmetic, Toiletry, and Fragrance Association* commissioned a study using radio-labelled talc placed in the vagina of monkeys. No migration to the ovaries was detected after innoculation of 30 doses in a 45-day period, covering one complete menstrual cycle. This study will soon be published in the scientific literature.

We also feel the article provides another disservice to its readers by reinforcing the "guilt by association" issue. This was raised originally over the potential contamination of cosmetic talc by asbestos fibers and was subsequently further confounded by the implication that chemical similarities between talc and asbestos had toxicological significance. This is unscientific and not justifiable on both mineralogical and biological grounds. While talc and some forms of asbestos can be physically associated in a geological area, they are in fact distinct. Studies have shown repeatedly that the cancer-producing potential of asbestos is related to its fibrous structure and is dose-related.[7] Cosmetic talc is plate-like, does not contain asbestos fibers, and does not behave similarly to asbestos in biological systems.

Safe products and healthy consumers are our common goals. Ingredients such as talc are under constant review and new information is welcome. Given the weight of the scientific evidence asserting the safety of talc, we feel that articles and commentary such as that in the May issue serve no purpose except to cause undue consternation and confusion among professionals and ultimately your readers' patients.

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—Bruce Semple, MD
Chairman, CTFA Ad Hoc
Talc Task Force

*The Cosmetic, Toiletry and Fragrance Association, founded in 1894, is the national trade association representing the cosmetic, toiletry and fragrance industry.

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● *Dr. Cramer's reply:*

"It's true that the ability of talc and any other inert particles to migrate from vagina to pelvis has yet to be conclusively established in humans. However, translocation of inert particles is suggested by experimental studies,[1,2] by reports of pelvic granulomas in women with unusual douching practices,[3] and by the fact that negative pressures favoring suction into the tube have been demonstrated during antiperistaltic activity of the tube.[4] Despite the limited evidence, the ability of inert particles to enter the pelvis from the vagina has been accepted by eminent gynecologists.[5]

"While I look forward to reading the results of the primate experiments referred to by Sekerke and Semple, it should be noted that the human exposure pertinent to the talc/ovarian cancer association occurs not over one cycle, but over a span of twenty years or more. Furthermore, the translocation might be facilitated by coitus, infections such as trichomonas, or drugs that might affect tubal peristalsis.

"Dr. Hopkin's disbelief that particles contaminating the pelvis could enter the substance of the ovary fails to recognize its unique and changing anatomy. As the ovary ages, deep inclusions and clefts form, entrapping the surface lining—and possibly adherent contaminants—within its substance.

"Ultimately, further animal and epidemiologic studies should tell us whether there is any basis for linking talc use to ovarian cancer. Although cancer was not produced in the rat bursa model cited by Sekerke and Semple, the study cannot be considered entirely reassuring. Focal areas of papillary changes were noted in the surface epithelium.[6] Nor can the study by Hartge, et al[7] be characterized as "contradicting" our study.[8] Although no overall association between talc use and ovarian cancer was identified, elevated risk

was noted for women with genital use of talc—a finding of borderline statistical significance. We believe that additional animal studies and more detailed epidemiologic studies assessing duration, frequency, and nature of use will help clarify any connection.

"Until these studies are completed, my common sense tells me that women might wish to be aware of suspicions that exist concerning the genital use of talc, especially if it is a practice they plan to engage in daily for the next 20 or 30 years — a practice, I might add, which has only aesthetic benefits."

—Daniel W. Cramer, MD, ScD
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