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ALUMINIUM AND HEALTH

Fact sheet 8

ALUMINIUM AND COSMETICS

Some aluminium salts are widely used in cosmetic products like deodorants.
These products contain antiperspirant ingredients, colouring, preservatives, perfumes, etc.
The antiperspirants often contain aluminium salts such as aluminium chlorhydrate or aluminium hexachlorhydrate in quantities up to 25%.
The aluminium salts work by forming a plug at the top of the sweat ducts and reduces the sweat to the surface of the skin.
Articles and rumours, which have recently been spread through the Internet, have suggested that these cosmetics might be involved in breast cancer. The main argument given for this is that as a large proportion of breast cancer has been observed in the upper outer quadrant of the breast, which is close to the area where cosmetics are applied, a possible link between underarm cosmetics products and this breast cancer has been suggested. A published study of aluminium uptake from deodorant applied under the arms shows that the uptake into the body is maximum 0,02%. (1)

Aluminium is not classified as a carcinogenic substance by IARC, and has gone through a through review by an international expert group set up by WHO/IPCS.(2)
The US Food and Drug Administration (FDA) also indicate that there is no evidence to support that underarm cosmetics ingredients cause cancer.(3)
An epidemiological study conducted in the US and published in 2002 tried to evaluate the link that may exist between breast cancer and the use of antiperspirants and deodorants by studying the body hygiene habits of women with breast cancer compared to randomly chosen women of a similar age.(4)
The conclusions were: << These findings do not support the hypothesis that antiperspirants use increases the risk for breast cancer and there is no evidence of risk for breast cancer from the use of deodorants >>.
Concerning the location of the breast cancers, according to the American Cancer Society: Most cancers occur in the upper outer quadrant of the breast because most of the breast tissue is located there.

A recent French study evaluating 59 published studies on deodorants/antiperspirants and breast cancer concluded that there is no scientific evidence of any link between deodorants and breast cancer; and that due to the lack of a credible hypothesis it is of little interest to continue this line of research (5).

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Studies show that breast cancer may be linked to natural hormones, or chemicals which mimic the effects of hormones – endocrine disrupters.
For several years, scientists have been conducting studies for the European Commission to draw up a list of chemicals that could be classified as endocrine disruptors.

Aluminium has been listed in the last category: There is no scientific evidence for inclusion in the list.
A summary of aluminium health risk can be found in ref.6.

References:

1. Flarend R et al; A preliminary study of the dermal absorption of aluminium from antiperspirants using Al26; Food. Chem. Toxicol. 39:163-168.

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3. US FDA, Vol.68, No 110,2003

4. Mirick DK et al.; Antiperspirant use and the risk of breast cancer; J. Natl. Cancer. Inst, 94:1578-1580

5 Namer M, Luporsi E, Gligorov J, Lokiec F, Spielmann M – L'utilisation de déodorants / antiperspirants ne constitue pas un risqué de cancer du sein . Bulletin du Cancer 2008, 95 (9) 87 – 1-80.

6. Krewski D, Yokel RA, Nieboer E, et al. Human health risk assessment for aluminium , aluminium oxide, and aluminium hydroxide. Journal Toxicol Environ. Health 2007 ; 10 (Suppl.1) 1 – 269.

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