Comment. Hair follicles progress through the following 3 phases: anagen or growth, catagen or involution, and telogen or resting phase. The mechanism of chemotherapy-induced hair loss involves disruption of mitosis in hair matrix cells in the anagen phase. Hair loss may be prominent within weeks of drug administration. Scalp hair is greatly affected because 85% to 90% of hair follicles in the scalp are in the anagen phase, and the duration of the anagen phase is greater in scalp hair (2-6 years) compared with eyelashes (1-1.5 months). The epilation of the anagen phase is greater in scalp hair (2-6 months). In hair follicles, the majority of hair is in telogen or resting phase. The mechanism of chemotherapy-induced hair loss has not been systematically described, but the combined chemotherapies of cyclophosphamide and doxorubicin caused hair loss in 92% of the patients, with distributions of 3.3% for thinning, 19.9% for greater than 50% alopecia, and 69.5% for complete alopecia.

Latanoprost, travoprost, and bimatoprost are prostaglandin analogs that effectively lower intraocular pressures. An interesting not adverse side effect is the change in eyelashes. A prospective study of 43 patients treated unilaterally with latanoprost showed an increase in eyelash number, thickness, and length. The proposed mechanism of prostaglandin-induced hypertrichosis is thought to involve induction of follicles into the anagen phase. This is supported by prostaglandin-related mitogen activity inducing expression of particular genes leading to DNA replication.

Additional evidence for the potential hair protective property of topical prostaglandin administration was observed in an animal model during chemotherapy. Mice treated with topical misoprostol (prostaglandin E1 analog) before doxorubicin therapy had an increased number of residual hairs compared with mice treated with chemotherapy alone.

In conclusion, the potential cytoprotective effect of topical prostaglandins was observed in this case of preserved eyelashes during chemotherapy with concurrent topical prostaglandin treatment. These findings warrant further investigation, which may provide additional evidence for prostaglandin protection against hair follicle injury.

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Lifestyle and Adiponectin Level: Four-Year Follow-up of Controlled Trials

The adiponectin adipocyte-secreted adipokine has both insulin-enhancer and anti-inflammatory properties and is the most consistent biochemical predictor of type 2 diabetes mellitus. Higher adiponectin levels are consistently associated with a lower risk of type 2 diabetes in 13 prospective studies of diverse populations with a total of 14 598 participants and 2623 incident cases of type 2 diabetes, with a relative risk of 0.72 (95% confidence interval, 0.67–0.78) per 1-log μg/mL increment in adiponectin levels. Identification of lifestyle changes able to increase adiponectin circulating levels may help refine the strategy against the current diabetes epidemics.

Methods. This was a post hoc analysis of randomized controlled trials to see whether adiponectin levels were related to success in achieving lifestyle changes. A total of 410 subjects (219 men and 191 women) were originally randomized to an intervention group, based on improvement of quality of diet and increased physical activity, or to a control group (general information about healthy food choices and exercise). The goals of the dietary intervention were a reduction in intake of saturated fat to less than 10% of energy consumed, an increase in intake of monounsaturated fat to 10% or more of energy consumed, and an increase in fiber intake to at least 15 g per 1000 kcal. The goal of physical activity was moderate exercise for at least 30 min/d for at least 5 d/wk. Frequent ingestion of whole-grain products, vegetables, fruits, nuts, low-fat milk, and olive oil was recommended. The subjects also received individual guidance on increasing their level of physical activity: endurance exercise (such as walking, jogging, swimming, aerobic ball games, or skiing) was recommended. The study subjects were ranked according to their success in achieving the goals of the intervention at the 4-year examination. We calculated the percentage of subjects in both groups who had an adiponectin level of 1 μg/mL or more above the median of the sample in each success score category (0, no goal achieved; 1, dietary goal achieved; 2, physical activity goal achieved; and 3, dietary + physical activity goals achieved). Adiponectin levels were assayed with a radioimmunoassay from Linco Research, St Charles, Missouri, which has an intra-assay coefficient of variation of 1.78% to 6.21%.

Results. At baseline, the mean (SD) age of subjects in the intervention and control groups was 41 (6.6) and 41.2 (6.8) years, respectively, and the mean (SD) body mass index (calculated as weight in kilograms divided by height in meters squared) was 32.4 (5.5) and 32.6 (6.2), respectively.
At 4 years, 155 subjects in both groups were still in the program. The median (interquartile range) of plasma adiponectin concentration was 6.1 (3.5-9.1) µg/mL. The Figure shows the numbers of subjects who achieved the goals in each group, as well as the percentage of subjects in each category with adiponectin concentrations of 1 µg/mL or more above the median. The figures were adjusted for weight changes. Absolute numbers of people at goals were significantly lower in the control group; however, percentage values did not show any difference between groups, suggesting that achievement of the goal resulted in raised adiponectin levels independent of the group assignment.

Comment. This study provides evidence that circulating adiponectin levels, in the range of those suggested to offer protection from type 2 diabetes, can be obtained by successful lifestyle changes. Our estimate of the effect of the intervention can be considered conservative, since all subjects in the control group also had benefits from the general health advice. The recent results of the long-term Women's Antioxidant Cardiovascular Study, which showed no effect from generous doses supplement intake of vitamins A and C and beta carotene on primary prevention of type 2 diabetes, further stress the importance of lifestyle changes for diabetes prevention. Successful lifestyle changes are associated with increased circulating levels of adiponectin in overweight subjects.

Physicians' and Nurses' Experiences With Continuous Palliative Sedation in the Netherlands

Continuous palliative sedation is regarded as an indispensable treatment for alleviating intolerable refractory symptoms in dying patients. This far-reaching treatment requires a multidisciplinary approach, at least involving physicians and nurses. As this practice has, to our knowledge, not been studied from both these perspectives at the same time, we describe physicians' and nurses' experiences with continuous sedation until death, focusing on patients' characteristics, decision making, and the effects of sedation.

Methods. In 2008, a structured questionnaire was sent to a random sample of 1580 physicians and a nonrandom sample of 576 nurses working in the northern and western Netherlands in home care, nursing homes, hospices, and hospitals. Nurses who were likely to be involved in the practice of continuous sedation received a questionnaire through contact persons in their setting. The questionnaire contained questions on the patient the respondents had most recently treated with continuous sedation until death. The questionnaire had been pretested among physicians and nurses. The statistical significance of differences between physicians and nurses was assessed by $\chi^2$ and Kruskal-Wallis tests. Logistic or linear regression analysis was performed to adjust for setting and working experience. For all tests, $P < .05$ was considered statistically significant.

Results. The questionnaire was completed by 606 physicians (response rate, 38%) and 278 nurses (response rate, 48%). Cases were reported by 370 physicians (61%), mainly in general practice, and 185 nurses (67%), mainly hospital nurses. Most patients had cancer. The severe symptoms that were most commonly reported before the start of continuous sedation by physicians and nurses were fatigue, pain, and longing for death. Nurses

Figure. Subjects achieving adiponectin levels of 1 µg/mL or more above the median at the end of follow-up, according to the success score. *Data are given as number at goal/number not at goal in each category.

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