Studies Finally Link Tanning Beds to Melanoma

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VANCOUVER, B.C. — Two new studies presented at the Sixth World Congress on Melanoma have linked tanning bed use and melanoma.

The year 2005 sees the first real, indisputable evidence that tanning bed use contributes to melanoma risk,” said Philippe Autier, M.D., of the Jules Bordet Institute, Brussels, the chair of the session at which the studies were presented.

The larger of the two studies looked at tanning bed use by 106,000 Scandinavian women enrolled in a lifestyle study in the early 1990s, part of which involved a survey in which they were asked if they used tanning equipment, when, and for how long.

When the survey was repeated with a portion of the subjects 5 years after the initial one, the answers of 79% of surveys agreed completely with how the subjects had answered before, and 96% had a high, but not exact, agreement, which suggested that the reports were very accurate, said Marit Bragelien Veierød, Ph.D., of the department of biostatistics at the University of Oslo.

With the data broken into age groups by decade, those in the 20- to 29-year age group who used tanning equipment one or more times a month had a 57% higher relative risk of melanoma, those in the 30- to 39-year age group had a 44% increased risk, and those in the 40- to 49-year age group had a 69% higher risk.

By comparing all those who reported having ever used tanning equipment with those who had never used it, the study showed that there was an increased relative risk of 33% associated with tanning equipment.

In the second study, investigators compared tanning equipment use in subjects enrolled in the international Genes, Environment, and Melanoma Study who had single primary melanomas (406 cases) with those who had multiple primary melanomas (125 cases).

Overall, 29% of the subjects had used tanning equipment, and the mean age at initial diagnosis of melanoma in those who had used it was 10 years younger than it was those who had never used it, said Maria Chiu, of Cancer Care Ontario, Toronto.

When adjusted for age and sex, the data indicated that tanning equipment use was associated with a higher risk of multiple melanomas, with an odds ratio of 1.68.

For those in the highest quartile of frequency of use, the odds ratio was 1.87. For those whose first exposure was before age 20 years, the odds ratio was 2.63, Ms. Chiu said.

The data indicate a strong dose response to tanning equipment use, Ms. Chiu added.

Previous studies in which investigators had attempted to associate tanning bed use with melanoma were generally inconclusive, probably because they tended to be too small to determine statistical power, the investigators and others said at the meeting.