



The Environmental Health Science FEST

207. The Temporal Relationship Between Application of Personal Care Products and Blood Serum Concentrations of 1,3,4,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-cyclopenta[g]benzopyran (HHCB)

Erin Morrisroe, *Huntington Breast Cancer Action Coalition*
friends@hbcac.org

Abstract:

People intentionally apply personal care products with fragrances to their skin, yet our understanding of the extent of absorption into the human body is woefully incomplete. Most personal care product fragrances contain polycyclic musks, of which the most common is 1,3,4,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-cyclopenta[g]benzopyran, HHCB. It is lipophilic, bio-accumulative and a suspected selective estrogen receptor modifier. HHCB has been detected in the blood of people of all ages. There have been previous studies that show the positive association between HHCB levels and use of personal care products. Yet, in order to gain a better understanding of the temporal relationship between HHCB exposure and serum levels, this study would recruit 96 individuals, 72 to be exposed to HHCB, and 24 for a control. The 96 individuals would have their blood serum concentrations analyzed before exposure, to any personal care products containing HHCB, and then again at intervals of 24, 48 and 120 hours after application of a lotion with HHCB. With the baseline of HHCB concentration in the lotion established, and the concentrations of HHCB in serum collected from the 24 person sample group, a 2 sample t-test would be performed to compare the mean levels of HHCB across individuals and across the three sample groups, all in comparison with the control group. This study and the statistical analysis would provide a better understanding of the metabolism of HHCB in the human body.

Contributing Authors:

Erin Morrisroe, *Huntington Breast Cancer Action Coalition*
Jaymie Meliker, *Stony Brook University*

Poster ID: P5695