

colleagues suspect that the shots present the immune system with a high enough dose of steroids to somehow counter the initial inflammatory response and curtail damage. This effect eventually wears off, however.

Some doctors already treat their MS patients with steroids, and a few small studies show that steroids can speed an MS patient's recovery from a flare-up of the disease, Beck says. "Our findings are at least supportive of this use."

Each participant received an MRI brain scan at the beginning of the study. The eye-study data confirm that these scans can help identify those at risk of developing MS, says Beck. Almost 25 percent of participants with abnormal scans had MS within two years, while just 5 percent of those with normal scans did. The more abnormal the scan, the more likely the development of MS.

"[The report] supports treatment with intravenous steroids, particularly [in] people with optic neuritis and abnormal MRI [scans]," comments Stephen C. Reingold of the National Multiple Sclerosis Society in New York City.

However, both Reingold and Silberberg caution that this study was not designed to assess a treatment for MS. Because patients knew when they received injections, the results could be biased, they warn. Also, the number of MS patients in each group was relatively small.

— E. Pennisi

Dioxins meddle with key thyroid hormone

Dioxins appear to tamper with infants' thyroid systems even in low concentrations, spelling potential trouble for babies' psychomotor development, researchers in the Netherlands report.

"It's the first time anyone has really picked up on thyroid status in relation to dioxin concentrations" in humans, comments James D. McKinney of the Environmental Protection Agency in Research Triangle Park, N.C. Other studies have shown that dioxins affect thyroid hormone concentrations in animals.

The new study, published in the November ENVIRONMENTAL HEALTH PERSPECTIVES, finds that babies exposed to greater amounts of dioxins have higher, although still normal, concentrations of a key thyroid hormone in their blood. These infants appeared healthy at 6 months, says Hendrik J. Pluim of the Academic Hospital of the University of Amsterdam, one of the study's authors. But the effect concerns Pluim and his colleagues because of the importance of thyroid hormones to development, he says, so they continue to monitor the infants.

McKinney says that the researchers may not have picked up all of the dioxins' effects. The study looks only at thyroid

Hot answers to some 'bad hair' problems

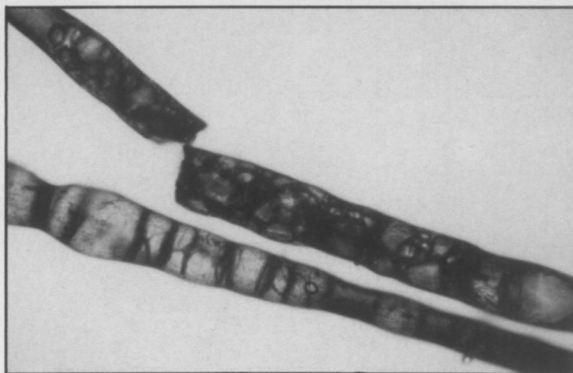
One day you notice a patch of coarse, unmanageable hair. When that bad hair day extends into the next month and the affected area only grows, panic takes hold. You haven't changed your diet, gotten sick, or altered your hair styling habits. So what's going on? The answer may prove as simple as a hairy hair dryer, dermatologists reported this week.

Since 1986, the medical literature has described three women with localized patches of "bubble hair" — strands rendered coarse, kinky, and brittle by the development of internal bubbles. Since the women had been healthy, the reports suggested the bubbles probably resulted from trauma to hair possessing some genetic defect, notes Susan P. Detwiler of the University of North Carolina (UNC) School of Medicine in Chapel Hill.

Last year, Detwiler encountered another case of bubble hair (upper photo). While the patient did not use hot rollers or curling irons, swim frequently in chlorinated pools, or have a permanent wave, she did blow-dry her shoulder-length tresses twice daily.

Watching that patient use her dryer, Detwiler says she "noticed that [the woman] preferentially positioned it near the affected area." Subsequent examination revealed that clogs of matted hair caused the dryer to overheat. Removing the clogs reduced the dryer's output temperature from more than 300° C to roughly 140° C.

Detwiler then exposed hair from 16 adults, a cat, and a dog to heat from a range of sources. At the American Academy of Dermatology meeting in Washington, D.C., this week, Detwiler and Robert A. Briggaman, also of UNC, reported finding that everyone's hair will form gas bubbles (lower photo) — "an intermediate stage of hair combustion" — if exposed to heat in excess of 175° C to 215° C. A report of the work will appear in the January JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY.



Photos: Detwiler

function, whereas "the real issue is what is happening at the level of the cells," he says. Scientists had already found that dioxins can affect the body's immune system and other hormones (SN: 1/11/92, p.24).

In the new study, the researchers measured the concentrations of seven dioxins and 10 dibenzofurans, which have chemical properties similar to those of dioxins, in the breast milk of 38 mothers of newborns. They classified the infants as being in either a high- or low-exposure group, depending on the concentrations of these chemicals in their mothers' milk. Dioxin concentrations in all of the milk fell within the normal range for the population, Pluim says.

The researchers then measured thyroid hormone concentrations and other indicators of thyroid function in the infants' blood at birth and at 1 week and 11 weeks of age.

The high-exposure group showed greater concentrations of T₄, the hor-

monone most synthesized by the thyroid gland, one week and 11 weeks after birth. At 11 weeks, the babies also had higher concentrations of thyroid-stimulating hormone (TSH), which causes the thyroid gland to produce T₄, the researchers write. Furthermore, the ratio of T₄ to a protein that transports T₄ was higher, the group notes.

"We postulate that dioxins influence thyroid hormone concentrations in infants by interfering with the thyroid hormone regulatory system," they write. For example, children in the high-exposure group had both higher T₄ and TSH, even though T₄ normally inhibits the release of TSH, Pluim says.

They hypothesize that dioxin encourages the release of T₄ in the pituitary gland. This and other disruptions of the thyroid regulatory system by dioxin could threaten normal psychomotor development and the maturation of the central nervous system, Pluim warns.

— T. Adler