Biomedicine

Growth hormone given to normal kids

When scientists introduced synthetic human growth hormone in 1985, the triumph was tempered by concerns about whether the substance would be overprescribed. Would its use be restricted to the 14,000 children in the United States with growth hormone deficiency? Or would doctors provide a medically assisted growth spurt for the much larger number of children who are merely short for their ages?

The first study to examine this question has found that the latter is the case, report Leona Cuttler and her colleagues at Case Western Reserve University in Cleveland. Just 4 of 10 children now getting the treatment are actually growth hormone deficient (GHD) or suffer from chronic kidney failure—the only government-approved conditions for the hormone's use.

Yet many pediatric endocrinologists nonetheless "consider [growth hormone] treatment appropriate for selected short non-GHD children," Cuttler and her colleagues report in the August 21 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Some of these children have other medical problems that stunt growth, such as impaired but still functional kidneys or a malformation of the gonads known as Turner syndrome. But many others receive treatment because their parents "are driven by a cultural 'heightism' that permeates American society," Barry B. Bercu of All Children's Hospital in St. Petersburg, Fla., says in a JAMA editorial.

Physicians, like parents, appear to be swayed by societal rather than medical factors, the study found. Some of them prescribed the hormone out of a "desire to address a perceived impairment" rather than the medical judgment that the child needs the hormone, say Cuttler and her colleagues.

Each decision to prescribe growth hormone is an expensive one, since a course of treatment costs from $13,000 to $16,000 a year, the researchers report. The price of treating all the genuinely hormone-deficient children in the United States would total $182 million a year. If the group of potential candidates for the therapy were broadened to include 1.7 million children who though short are not hormone deficient, the cost would soar to $22 billion a year.

Estrogen cuts risk of Alzheimer's

Women who take estrogen supplements to relieve the discomforts of menopause reap many additional benefits, ranging from protection against heart disease and osteoporosis to heightened short-term memory and a greater capacity to learn new tasks (SN: 2/4/95, p. 74).

Now researchers have found that estrogen replacement therapy confers yet another bonus—a reduced risk of Alzheimer's disease. A new study, reported in the Aug. 17 LANCET, tracked 1,124 elderly women. It found that women who had taken estrogen for just 1 year were significantly less likely to develop the memory-destroying brain disease than women who had never taken the hormone supplements.

Richard Mayeux of Columbia University and his colleagues also report that the longer the women took estrogen supplements, the more they reduced their Alzheimer's risk. Extrapolating from the 5-year study, Mayeux estimates that women who take the drug for a decade reduce their odds of getting Alzheimer's by nearly 40 percent.

About one in four postmenopausal women currently takes estrogen replacement pills to relieve such symptoms as hot flashes and insomnia. Gynecologists caution, however, that the study does not provide enough evidence to establish that most older women should take the hormone. Estrogen therapy may increase a woman's odds of getting endometrial and perhaps breast cancer, although coupling estrogen with a hormone called progesterone can minimize the endometrial cancer risk.

Behavior

Forgotten past, remembered self

An 18-year-old female, referred to as W.J. by researchers, hit her head in a fall and suffered a concussion. Brain scans showed no damage, but she complained of concentration and memory difficulties. In fact, W.J. had forgotten much of what had happened in her life during the previous 4 years.

When her amnesia lifted after several weeks, psychologists who had tracked W.J.'s progress noted something intriguing—her insight into her personality and the nature of her "inner self" remained much the same throughout her massive memory loss and recovery.

This raises the possibility that you may not need to remember how you've behaved in the past to know your personality, according to a report on her case in the September JOURNAL OF EXPERIMENTAL PSYCHOLOGY: GENERAL. In fact, these realms of self-knowledge may exist in brain systems that operate independently of one another, theorize Stanley B. Klein of the University of California, Santa Barbara and his colleagues.

When tested 5 days after her accidental fall, W.J. showed little memory of personal events in recent years. Four weeks later, W.J.'s performance on memory tests improved considerably and resembled that of two neurologically healthy women examined by the investigators.

At both sessions, however, W.J. offered comparable ratings of the degree to which she fit a series of 80 personality descriptions, such as "outgoing," "helpful," and "lazy."

It remains possible that, just after her fall, W.J. rated her personality based on her recall of a few intact personal memories or actions from long ago. However, the scientists argue, other studies point to a sharp split between abstract personal knowledge, such as realizing that you are kind but lazy, and memories of specific occasions in which you behaved in those ways. For example, a man who permanently forgot nearly all of his prior experiences because of injuries suffered in a motorcycle accident still described his personality in much the same way as others who knew him well, according to research conducted by psychologist Endel Tulving of the Rotman Research Institute of Baycrest Centre in North York, Ontario.

Lives on the edge

A survey of homeless and low-income mothers in Worcester, Mass., highlights some harsh realities of their lives. Along with average incomes considerably below the federal poverty level, women in both groups report scant education and job training, poor physical health, large numbers of physical and sexual assaults, and high rates of major depression and psychological symptoms linked to traumatic experiences.

Both groups of women in the survey, published in the Aug. 28 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, typically maintain few ties to family, friends, or male partners.

Researchers, directed by psychiatrist Ellen L. Bassuk of Harvard University Medical School in Boston, recruited 220 women from emergency shelters or other temporary housing facilities who had previously been homeless for a week or more and 216 women receiving welfare who had never been homeless. Participants had from one to seven children.

Most strikingly, 92 percent of homeless mothers and 81 percent of low-income mothers had experienced a severe physical or sexual assault at least once in their lives. Individuals often reported that assaults occurred at the hands of childhood caretakers and, later on, boyfriends and husbands. About one-third of mothers in both groups had suffered from post-traumatic stress disorder, compared to one-eighth of all U.S. women; nearly one-half of homeless and low-income women cited periods of major depression, compared to one-fifth of women in the general U.S. population.