

MEDICINE

Arthritis Heredity Link

► A LINK BETWEEN inherited factors and chronic arthritis in women has been found by University of Manchester scientists.

Osteoarthritis, or degenerative arthritis, is regarded by physicians as essentially a nuisance, rather than a crippling disease. Unlike inflammatory diseases such as rheumatoid arthritis, which attacks the relatively youthful, osteoarthritis usually afflicts the elderly.

A survey of 206 women and 173 men of ages 55 to 64 in Leigh, a town in Lancashire, England, showed that a high percentage of women with multiple-joint osteoarthritis also had an arthritic condition called Heberden's nodes. This condition is believed to be inherited through a gene dominant in females and recessive in males.

Heberden's nodes are bony outgrowths in the joints of the fingers. It now appears that this relatively mild form of ailment is likely to lead, in women patients, to a generalized, or polyarticular, form of osteoarthritis—that is, one affecting many joints, rather than a localized form confined to only a few joints.

Among the women checked at Leigh, about 70% of those with osteoarthritis in six or more groups of joints also had Heberden's nodes. About 40% of those with the generalized disease in three to five groups

of joints likewise had the finger-joint nodes.

Hereditary factors may activate osteoarthritis in men, too. But injuries, occupational stress and mechanical factors are believed to play a bigger part. An earlier study, for example, showed by X-rays that miners in Leigh were subject to the disease to a far greater extent than other men whose work involved less physical strain. The knees and back were particularly affected.

Surprisingly, the miner's own verbal accounts of their back and limb aches ("complaint rate") differed very little from those of the other men. Complaints, the researchers concluded, are not the best gauge of actual disease incidence.

Reporting in the British Medical Journal, July 1, 1961, Dr. J. H. Kellgren, director of the University's Rheumatism Research Center, states more research work on the disease is "urgently needed." Although future prospects are promising, "the eradication of osteoarthritis is still an ideal goal for the remote future," he states.

Dr. Kellgren believes work on osteoarthritis may have been neglected because it is "one of those dull commonplace disorders that are hard to study with enthusiasm."

• Science News Letter, 80:36 July 15, 1961

MEDICINE

Child Autopsy Urged

► SOME CHILDHOOD DEATHS officially blamed on accidents probably are undetected murders, a Cleveland pathologist reports.

"It is relatively simple to destroy the life of a child in almost absolute secrecy without the necessity of taking any elaborate precautions," states Dr. Lester Adelson, chief deputy coroner for Cuyahoga County and assistant professor of forensic pathology at Western Reserve University School of Medicine.

The way to make sure justice is done, he says, is "the time-honored combination of complete autopsy and thorough police investigation." He believes an autopsy should be performed on any child whose death arouses even the slightest suspicion—not only to establish guilt, but innocence as well.

Dr. Adelson bases his opinion on a study of 46 cases of pedocide—child murder—that occurred in or near his home county during a 17-year period.

Several of the victims, hospitalized hours or even days before death, were too young to communicate with investigating officers. In some cases, attending physicians made faulty diagnoses. Death by violence was diagnosed only after a coroner's autopsy disclosed internal injuries in children said to have been "found dead in their cribs."

The nature, degree and age of the injuries often proved that the responsible adults were lying when they offered such explanations as accidental falls from cribs and

accidental dropping during bathing.

In some cases, verdicts of accidental death were pending when witnesses appeared to tell what had really happened, changing the picture to one of murder.

The 46 child killings represented about three percent of all known homicides in the area during the time covered. Thirty-six were killed either by parents or foster parents. One was "fatally assaulted by a psychotic paternal grandfather." Eight were slain by non-related persons such as neighbors and strangers, including five connected with sex crimes.

Of the 41 murderers responsible for the 46 child deaths, one was never identified, 17 were "patently mentally ill" and four were "borderline psychotic" but judged legally sane.

Some types of violence were utilized that "would rarely if ever be successful with a vigorous adult, able to offer effective resistance." These included starvation, drowning, smothering with a sheet or pillow, carbon monoxide asphyxiation with automobile exhausts and some types of beatings and kickings. Several infants died from injuries suffered "when they were violently squeezed by an irate father."

Dr. Adelson's report on "slaughter of the innocents" appears in the New England Journal of Medicine, 264:1345, 1961.

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EDUCATION

NSF Announces Grants For School Equipment

► THE NATIONAL Science Foundation has announced 56 grants totaling \$716,400 to enable mathematicians, scientists and engineers to develop equipment that will help update classroom instruction in specific fields such as physics and engineering. The grants go to schools and colleges in 23 states.

Users are expected to supply teachers with full information on any apparatus devised, and to permit interested commercial firms to negotiate for production and marketing.

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