

BIOCHEMISTRY

Growth of blastocyst in cervical fluid

Within a year, predicted Nobel biochemist Dr. James D. Watson recently, a scientist will conceive a baby in a test tube and successfully place the fertilized egg inside a woman who will bear the child.

Test-tube conceptions have already been accomplished and human ova grown for several days. In the Jan. 29 NATURE, Dr. Landrum B. Shettles of Columbia University reports completion of the next stage—growth of an ovum in the mother's cervical fluid.

Dr. Shettles extracted an ovum from a patient and kept it in its follicular fluid at body temperature. He then removed a quantity of cervical mucus and placed it in a petri dish. The ovum and follicular fluid were placed in this and fertilized with semen from the husband. The petri dish was then incubated under conditions simulating the ovum's natural environment. After five days the ovum reached the blastocyst stage of development.

The blastocyst could not be transferred to the mother's uterus, however, as she was recovering from surgery. But there was no other reason, Dr. Shettles said, why the ovum could not have been successfully transferred for continued development.

ARTERIAL DISORDERS

Hypertension among black women

Between 10 and 12 percent of the United States' population suffers from hypertension, or high blood pressure. But for some reason the disease occurs earlier and more frequently among blacks.

A recent study by researchers at Georgetown University in Washington, D.C., found high blood pressure in 48 percent of young black women.

Dr. Frank A. Finnerty, head of Georgetown's Cardiovascular Group at D.C. General Hospital examined 289 black women selected at random from patients at the hospital's Birth Control Clinic. The average age of the women was 23. He found that 141 of them suffered from hypertension. "It is these young women," said Dr. Finnerty, "who will have strokes at an early age if their conditions go unnoticed and untreated."

The Cardiovascular Group is now trying to determine if treating the women at an early age will delay or prevent arteriosclerosis in later years. The physicians are also examining the possibility that the high blood pressure was caused by use of oral contraceptives.

ENDOCRINOLOGY

Testosterone and sleep

Various studies have shown a daily variation in the hormone testosterone in men. Similar diurnal variations in other hormones have been noted, and some have been found to be related to sleep.

Four sleep scientists, Drs. J. I. Evans and A. W. MacLean of the University of Edinburgh Sleep Laboratory and A. A. A. Ismail and D. Love of MRC Clinical Endocrinology Research Unit in Edinburgh, examined the relationship of sleep to testosterone. The researchers monitored eye movements, electroencephalograph waves,

muscle tone, pulse rate and plasma testosterone concentrations of five subjects over a four-month period.

They report in the Jan. 22 NATURE that peaks of testosterone occurred during or adjacent to periods of sleep characterized by rapid eye movement, irregularity of physiological variables and dreaming.

Since increases in the hormone often preceded REM sleep, the researchers conclude that this type of sleep does not trigger production of testosterone. But the relationship, they believe, suggests a link between the neurophysiological state underlying REM sleep and the mechanism regulating production of testosterone.

ANTHROPOLOGY

Rickets and Neanderthal man

Was Neanderthal man's simian shape the result of a case of rickets? Several researchers have noted that some characteristics of individual Neanderthal skeletons could be attributed to rickets or chronic osteoarthritis. And recently Dr. Francis Ivanhoe of London suggested that Neanderthal man as a race suffered from vitamin D deficiency and that his diagnostic characteristics are due to the disease.

In the Jan. 22 NATURE, Drs. Ernst Mayr of Harvard University and Bernard Campbell of Cambridge, England, tackle this question.

Skulls of the characteristic Neanderthal shape, they say, are geographically widespread and occur in low latitudes and periods of warm climate, when a shortage of vitamin D would be unlikely. Dr. Ivanhoe had argued that the incidence of rickets fell off with the passing of a cold stage. But Drs. Mayr and Campbell point out that Neanderthal was replaced by modern man at the peak of this cold stage and that modern man passed through several subsequent cold phases without reverting to Neanderthal shape.

The two researchers conclude that the morphology of Neanderthal man should be interpreted as an adaptation to his environment.

PHARMACOLOGY

Efficacy of cough remedies

More prescription drugs are available for relief of coughs than for any other medical symptom, but many of them have not been proven effective and may even be hazardous, according to the Feb. 5 MEDICAL LETTER.

Coughs are usually self-limited or of brief duration, the publication points out, and "do not require an arsenal of drugs for relief." Furthermore, it notes, a cough is a protective reflex and if copious secretions are present, it should not be suppressed.

But even for serious coughing, the publication says, there is no justification for four or more drugs simultaneously, as many cough syrups contain. Some of these drugs may even have opposing effects.

Some over-the-counter drugs, MEDICAL LETTER adds, contain alcohol in the strength of 100-proof whiskey and are used as intoxicants by adolescents. These should be prescription items, the report said.

It suggests that the propriety of marketing complex cough mixtures of unproven efficacy be reviewed by the National Research Council.