

MEDICINE

New Dangers of Sulfanilamide; May Harm Expectant Mother

Physicians Warned Against Indiscriminate Use; Surgery Gives New Scalp and Ear After Injury

SULFANILAMIDE is no panacea, and it may even be dangerous to expectant mothers for whom it was first hailed as a life-saving weapon against childbed fever, members of the American College of Surgeons were told at their meeting in Chicago.

Sulfanilamide was discussed in three reports of experiences with this drug, which has caused nation-wide alarm because of the deaths that followed use of a special preparation wrongly called an elixir and intended for dosage by mouth. The reports, however, were not about this so-called elixir but about the drug itself.

Giving of sulfanilamide itself to expectant mothers is open to criticism from the standpoint of its toxic effect both on the mother and the unborn child, it appears from studies reported by members of the department of obstetrics and gynecology of the Chicago Lying-In Hospital. The studies were made on animals to determine whether sulfanilamide had a poisonous effect on either the pregnant animal or the unborn offspring.

More encouraging was the report of two members of the faculty of Rush Medical College, Chicago, who used the drug to treat streptococcus meningitis occurring as a complication of middle ear infection. Eleven cases of this usually fatal complication, ten with mastoiditis and one without, were treated with the drug in addition to mastoid operation in the mastoiditis cases. All the patients recovered and no serious reactions to the drug were observed.

Not a Panacea

Sulfanilamide is not a panacea in acute gonorrhoea and its promiscuous use should be discouraged, according to a statement from the staff of the Chicago Lying-In Hospital. The statement summarized experience with the drug in treating patients and ended with the following seven-point warning:

1. Discourage the promiscuous and unwarranted use of the drug.
2. Encourage its use only in infections by organisms susceptible to its action,

that is, streptococci, gonococci and pneumococci in the genital tract.

3. Just because a patient has sepsis, don't use the drug. Individualize and make the diagnosis.

4. Try to make the dosage compatible with each individual requirement. This applies to patients with kidney involvement.

5. Determine quantitatively the concentration of the drug in the blood and keep it below 15 milligrams per cent.

6. Watch the hemoglobin, the white blood cell count and the daily excretion of the drug so that there is no cumulative action. So far as symptoms are concerned, beware of cyanosis (blueness of the skin), bouts of fever and mental symptoms.

7. Avoid saline cathartics, administration of sulfates and most drugs containing minerals because of their harmful cross actions.

Gets New Scalp

The case of a young matron who, after being scalped and losing her right ear, was given a new scalp and ear made from skin off her back and a piece of cartilage from her rib, was reported by Dr. James A. Cahill of Washington, D. C.

The modern surgeon, Dr. Cahill pointed out, needs to know how to treat cases of scalping, even though Indians armed with tomahawks no longer rove the plains and skulk in the woods. Scalping is fortunately rare today, but 96 cases of complete scalping in industrial accidents have been reported.

In the case Dr. Cahill reported, the young woman was scalped because her hair caught in the flywheel of a power machine when she stooped to pick up something that had fallen beneath it. More than eight operations, spread over 19 months, were necessary to give the young woman her new scalp and ear. The results are entirely satisfactory to her now and the slight deformity remaining scarcely shows after her headdress is in place. *(Turn to Next Page)*

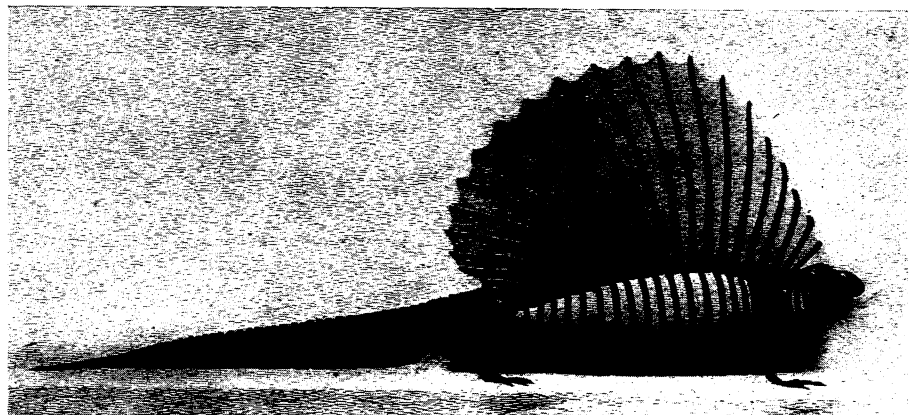
PALAEONTOLOGY

Ancestor of Dinosaurs Exhibited at Harvard

ONE of the world's oldest and oddest animals, the ship-lizard, is now on display in Harvard's Museum of Comparative Zoology. It lived in Texas some 225,000,000 years ago and its fossil remains were discovered and collected from the famous Texas red-beds by Prof. Alfred S. Romer, L. I. Price and R. V. Witter.

This ancient lizard, forerunner of the giant dinosaurs, gets its name from a sail-fin, two feet long, that runs along its backbone. It is about eight feet long, half tail and half body, and its head is only half a foot long. Scientists call it *Edaphosaurus*.

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FINE FOSSIL

This exceptional specimen of Edaphosaurus, a "ship-lizard," was collected and mounted by Harvard scientists. This 8-foot creature was a forerunner of the giant dinosaurs and lived in Texas some 225,000,000 years ago.

Of the 96 cases of complete industrial scalping, 95 were women and one was a man, a Chinese whose queue was caught in machinery. The youngest of these scalped persons was eight years old, the eldest 63 years.

American Indians, Dr. Cahill said, were not the only ones to practice scalping. It was a regular act of war even in the days of the ancient Greeks. It did not get into the medical literature to any extent, however, until the introduction of manufacturing machinery in the nineteenth century. It now goes by the medical name of accidental avulsion of the scalp, instead of the old term, scalping.

Refrigeration for Cancer

"Refrigeration" of the body to a state of "semi-hibernation" is the new method of cancer treatment now being tried at Temple University School of Medicine, Drs. Temple Fay and George C. Henry of that institution reported.

The "refrigerating is done by special cooling devices applied to cancer areas, or by X-ray treatment of pituitary, thyroid and sex glands. The latter method reduces the entire body temperature. Object of the refrigerating is to induce a temperature unfavorable for the growth of young cancer cells, which apparently require the high temperatures found in the mouth and internal organs.

In cases in which the method was used to lower the temperature of the area of cancer growth, there was "definite retardation in the growth and decrease in its size in some instances," the Philadelphia doctors reported.

The X-ray "refrigeration" method is used in cancer cases where the tumor cells are widespread throughout the body. Reporting on this method, the doctors stated:

"In one instance, the tumor cells in the brain, spine and bones of the body disappeared and have shown no signs of return, during the past nine months. In two others, definite improvement has been noted in the size of the tumor masses."

The cases had all been given up as hopeless after all regular methods of treatment had failed. Whether the improvement will be permanent cannot be stated at present, but the method is of importance because it gives new approach to the cancer problem.

Important also is the fact that pain was promptly relieved following "refrigeration" of the area of cancer involvement. This alone helped to maintain the patient's strength and morale without the need of narcotics.

Research which led to this new method was financed by the International Cancer Research Foundation.

Key in Heredity

Cancer occurs because cells of the body which were never meant to be parents of new cells suddenly begin to have large numbers of offspring. The reason they do this is because of a change in their hereditary make-up.

This is the explanation, reduced to very simple terms, which Dr. J. P. Lockhart-Mummery of London presented to the meeting as his theory of the cause of cancer.

The theory, as Dr. Lockhart-Mummery pointed out, does not seem to help solve the problem of how to prevent or cure cancer. But in the past when the cause of a disease was discovered it generally led to discovery of some means of prevention or cure. The same may prove to be true in the case of cancer.

At all events, the key to the problem of what causes cancer has been found, he believes, in the science of genetics, which has to do with the way characteristics are inherited.

Scientists recognize two kinds of cells in the body: germ cells, which have nothing to do with disease germs but are the cells that are involved in reproduction and carry hereditary characteristics from one generation to the next; and somatic cells which do not have numerous progeny. When a somatic cell dies it is replaced by another single cell.

Sometimes, apparently, the hereditary factors called genes get mixed. Genes are better known as carriers of traits such as the color of eyes or the shape of noses. They also carry all the other features which make a particular individual—either a person or the innumerable tiny cells which make up his body—one sort of person or cell instead of another. When cancer develops, according to Dr. Lockhart-Mummery's theory, it is because there was a biologic change in the genes of somatic cells which endowed them with the power of having offspring. This change is called a mutation and is not reversible.

Experimental proof for this theory cannot be given at present, Dr. Lockhart-Mummery said, because genes "are and always must remain invisible to the human eye and gene mutation cannot ever be visible." His theory rests instead on the way it explains logically the known facts and fits in with other findings, such as those of Dr. Maud Slye on the genetic factors in mouse cancers.

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AVIATION

New Type Airway Markers Being Installed by Bureau

SPURRED by approaching winter, and congested air traffic, the Bureau of Air Commerce is rushing installation of added radio safeguards for commercial planes.

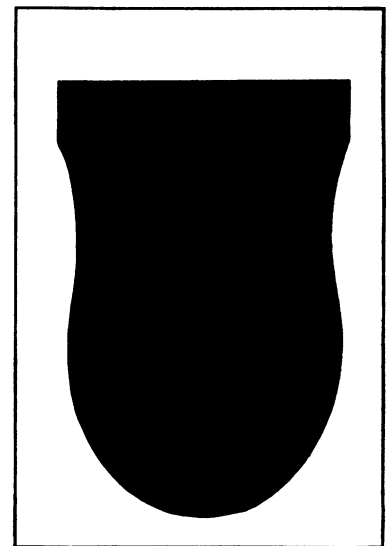
Specimens of two new types of markers, designed to replace in time the "cone of silence" which marks radio stations, are undergoing tests now. One hundred airport markers in all are to be installed this winter.

Airports are at present identified by a "cone of silence" above the airport radio station, which is usually located near the airport, but not at it. The beam sent out cannot be picked up by a plane immediately over the station, giving rise to the so-called "cone of silence" which has served to mark the station. Pilots have in the past criticized the "cone of silence" and have asked for a supplementary "positive signal."

The new station marker is a high frequency radio transmitter sending a narrow beam of waves directly upward from the station. It lights a lamp in the cockpit.

Twenty fan-type markers, which send an interrupted signal directly upward, are being installed at points twenty to thirty miles away from airports to mark for the plane pilot a point at which he must call in to the airport to determine whether he has a clear path into the landing field.

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DROPPING

This one was caught just as it fell from the nozzle.