Medical Sciences Notes

These items were gathered at the American College of Surgeons Clinical Congress, Chicago.

DIAGNOSIS

Doppler effect charts blood clots

Dangerous clots in veins and arteries can be located with an ultrasonic instrument that employs the Doppler effect, the apparent change of frequency when the source of sound is moving in relation to the listener.

Called the Doptone Blood Flow Detector, the device vibrates a crystal in the probe head to produce inaudible sound waves that penetrate the flesh. If they strike a varying tissue density, some of the sound is reflected back to a second crystal, vibrating it. Moving blood reflects a signal that changes its pitch according to the speed of the blood's motion—thus pinpointing the presence of blood-slowing clots in the vessel.

Dr. Bernard Sigel, associate professor of surgery at Woman's Medical College, Philadelphia, hopes to prove that this method can be used for quick screening of all bedridden patients who are in danger of vein disease—such as phlebitis—before it becomes dangerous. The veins of the leg are the source of many of the clots that break loose and travel to the lung. The Doptone detector is made by Smith Kline Instrument Co.

ACCIDENT PREVENTION

Rings endanger fingers

A finger ring can be a safety hazard, Dr. William H. Frackelton of Milwaukee, Wis., reports.

A ring can easily be caught on a projection and strip back the soft tissues of the finger, causing disrupted circulation to bone and joint, even eventual amputation. A factory worker, for example, who is prohibited from wearing a ring at work, may wear it home and catch the ring on his garage door with disastrous consequences.

To make rings safe, Dr. Frackelton recommends that jewelers cut slots with a fine metal saw inside the circle. Then if the ring is snagged it will spread in an open position like a notebook ring, sparing the finger.

PROSTATE

No respecter of blood groups

Prostate gland obstructions appear to be unrelated to marital status or any specific blood group, according to a survey of 827 residents of New Haven, Conn., who required surgery for benign obstructions.

The average man has about a 10 percent chance of developing benign prostatic obstructions before he is 80. The number requiring surgery increases after 40.

TRANSFUSION

Blood from the dead

Blood from cadavers has been administered to 110 patients safely and effectively, a team from Roswell Park Memorial Institute, Buffalo, reports. Some of the blood was drawn from deceased cancer patients but did not cause cancer in persons to whom it was administered. No major differences from blood obtained from live donors was found.

Drs. Sigmond H. Nagler and George E. Moore say the cadaver source should provide an additional method of relief for the blood shortage problem.

BURN THERAPY

Nylon skin in three layers

A three-layer prosthetic skin has been used on animals to cut down infection and death from burns, Dr. Donald P. Dressler of Tufts University, Boston, reports. The inner layer is made of short fine loops of nylon velour that sticks to the tissue and prevents formation of spaces in which serum can collect and bacteria grow. The middle layer is polyvinyl chloride or Silastic, permeable only to gases; it prevents water loss and infection. The outer layer of nylon seals the edges. By the ninth day the prosthesis becomes an integral part of the tissue.

MEDICARE

Historic act of emancipation

Laws creating Medicare and Medicaid were historic acts of emancipation "of which all citizens of America can be truly proud," the new president of the American College of Surgeons said in his inaugural address.

Dr. Reed M. Nesbit, professor of surgery at the University of Michigan, said the legislation gave a large segment of the population a right that long had been denied to it—to select its own physicians and to pay for them. He said the "medical indigent" has often ended up on charity wards or dispensaries of city hospitals where personal attention of well-qualified physicians is sometimes lacking.

CANCER PREVENTION

Blood-thinning drug

A drug that thins the blood makes cancer cells rush past places in the blood vessels where they might otherwise stick and start new tumors.

In experiments with cancerous rats, Dr. S. Kirby Orme of the National Cancer Center, Bethesda, Md., found that the anticoagulant drug Coumadin keeps the dangerous cells moving through the body's smallest blood vessels, the capillaries. In untreated cases, the cancer cells tend to lodge, work through the capillary wall, and set off new malignant growths.

Hope for similar treatments in humans, Dr. Orme said, arises from the fact that few cancer cases are reported from patients on such drugs, usually used for treatment of coronary artery disease.

HYPERBARICS

Burn treatment

A new treatment for burns—placing the victim in a chamber that surrounds him with oxygen under pressure—was discovered by accident.

A Japanese miner, put in such a hyperbaric chamber for treatment of overexposure to carbon monoxide, had also suffered heavy burns. Both problems improved under the therapy, which has been tested on rabbits.

Dr. Smith A. Ketchum III of the University of California School of Medicine treated animals with first, second and third degree burns in such a chamber. The treatment was successful, he found, perhaps because destruction of skin tissue due to lack of oxygen was avoided, and the system tended to cut the growth of bacteria.