medical sciences

Gathered at meetings of the Canadian Society for Clinical Investigation and the Royal College of Physicians and Surgeons of Canada in Montreal

CANCER

Predicting metastases

Before operating on cancer patients, surgeons have not been able to determine whether the cancer was metastatic or not. Once a cancer has begun to spread through the body, the chances of survival are poor.

Dr. Jean M. Gentile, assistant professor of surgery at the University of Sherbrooke, Quebec, outlined an experimental method, based on identifying antibodies to cancer, to indicate whether the patient is curable or not.

By correlating tumor antibodies in a patient's blood with the type and stage of tumor, the success of surgery was correctly predicted in all but one of 25 patients. Patients with antibodies that specifically attacked the tumors had a good chance of recovery with surgery. However, if patients had antibodies that simply attacked tumors in general but not necessarily the one from which they were suffering, their chances of survival were poor.

GERIATRICS

Swallowing difficulties

Eighty percent of men over 60 have difficulty in swallowing, report Drs. B. W. Shragge and J. S. Crispin of the University of Manitoba. But what changes occur with age to cause the difficulty is not fully understood.

The esophageal patterns of young people with no symptoms of upper gastrointestinal disease are generally considered normal for all people, say the physicians. Such a standard apparently does not apply to older persons, a fact that has diagnostic implications. They believe that if normal gullet functions for older persons could be established, a number of esophageal disorders could be diagnosed.

The researchers studied the motility of the esophagus in 70 subjects, from 20 to 86 years of age, who had no symptoms of any upper gastrointestinal disease. Both resting pressures and responses to swallowing were recorded in the gastroesophageal muscles and in the body of the esophagus.

The motility patterns in those under 60 were found to be in accord with the previously accepted norms, but in those over 60 the patterns were significantly different. Among the findings noted were decreased muscular response, and decreased ability to swallow.

HYPERTENSION

Possibilities with L-dopa

L-dopa, the experimental drug used so effectively in Parkinson's disease (SN: 1/31, p. 127) may prove useful for treating high blood pressure, says Dr. Andre Barbeau, neurologist at the Montreal Clinical Research Institute and an early researcher on the drug.

According to Dr. Barbeau, L-dopa has three effects on blood pressure. It decreases levels of plasma renin, an enzyme liberated in excess by the kidneys in patients with high blood pressure. And dopamine, the chemical to which L-dopa is converted once it enters the body, increases blood flow in the kidneys; low renal blood flow is another problem in hypertension.

But the situation is complicated by the fact that L-dopa constricts the blood vessels, which tends to raise the blood pressure.

Dr. Leon Goldberg of Atlanta, Ga., reports that if dopamine is given in conjunction with phenoxybenzamine, a drug that counteracts the vasconstrictor properties of dopamine, then the decrease in blood pressure is enhanced. If this is true with dopamine, then it may also be true with L-dopa in combinations with other appropriate drugs, a possibility the researchers will check out.

PHYSICAL FITNESS

The case for jogging

Jogging for less than 10 minutes a day can achieve maximum improvement in physical fitness in middle-aged men, says Dr. Bernard Lewis. He found "unexpected and impressive" improvement in tests with 25 volunteer doctors, including himself, from the Palo Alto Medical Clinic in California.

The volunteers, with an average age of 43, were first screened to rule out any counter indications. They were asked not to alter their eating, drinking or smoking habits, but merely to jog a mile a day.

Dr. Lewis reports that physical fitness in general improved an average of 35 percent. Work output on a bicycle ergometer increased an average of 16 percent, with associated improvement in cardiovascular dynamics. The average time for jogging the mile dropped roughly from 12 to 9 minutes.

Although there was no change in weight, there were significant changes in body fat and muscle. Body fat decreased about 20 percent, and the girth decreased by 1.7 centimeters. Mean decrease in skin fold thickness was 7.1 millimeters. Serum uric acid and cholesterol remained unchanged.

PREGNANCY

Unknown factor in bleeding disorder

Disseminated intravascular coagulation, a dangerous bleeding disorder in pregnant women, can also threaten the fetus, but it is not completely understood how.

Dr. Agnes Bishop, associate professor of pediatrics at the University of Manitoba, explains that the trouble begins in some mothers when they begin overclotting in their blood system due to some unknown factor. The mother then uses up the available clotting factor and because the blood cannot clot, bleeding occurs.

Studies of sheep with the bleeding condition show that if heparin, an anticoagulant, is given to thin the blood, the normal clotting patterning is re-established. However, the heparin does not get across the placenta to the fetus and therefore cannot protect it.

The problem now, says Dr. Bishop, is to identify the factor that crosses the placenta to cause the bleeding effect in the fetus.