

from abroad

ISRAEL

The search for standard blood

According to what may be an apocryphal story, a man who had a hemoglobin test in London was advised to have a venesection (the modern equivalent of blood letting) because his hemoglobin content was too high. But in Sweden, the same man was told he was suffering from anemia because his hemoglobin was too low, and he was advised to have blood transfusions.

This allegedly happened five years ago, and helped stimulate blood specialists to form the International Committee for Standardization of Hematology. As blood testing is one of the key tools used by the modern doctors, standardization in the methods of examining blood is essential. With modern travel, international standardization of blood tests has become even more important. Among blood components, the hemoglobin problem is furthest toward solution. After five years of research, a panel of the committee has developed a new method of measuring hemoglobin in solution by using a photoelectric color standard.

The component to be tested is compared in intensity with an international standard solution prepared by the committee in Holland and distributed free all over the world. Every three months batches of this international standard solution are tested by the panel in leading laboratories in England, Sweden, the U.S., Holland and Germany, and only if all the material tallies does the committee release it as an international standard reference.

But other standardization problems remain. Basically, the aim of the committee is to determine standards of what should be the entire content of normal human blood and how it should be tested so that results can be compared regardless of geography.

Determining what is normal blood is not simple. For instance, red blood cell counts may be of critical importance in deciding whether people should receive X-ray treatment or work with radiation. Yet different methods of counting the red blood cells may result in a variation of 10 to 15 percent, which may make a difference of more than a million cells. Moreover, the normal red blood count often isn't known, because normal people are not usually tested. Further, the number of red blood cells varies in different countries and changes when people change their environment.

In all, the international committee

has appointed 17 panels dealing with different aspects of blood, including cell counting, sedimentation rate, iron, folic acid, vitamin B₁₂, isotopes, thromboplastin and serology.

The International Secretariat, which met recently in Jerusalem to report on progress, consists of Dr. Jan Spaander of the Netherlands, chairman; Dr. R. J. Eilers, University of Kansas Medical Center, U.S.A.; Dr. Gabriel Izak, Hadassah-Hebrew University Medical Center, Israel; Dr. Giovanni Astaldi, Tortona, Italy; Dr. Ch. G. de Boroviczeny, West Germany, and Dr. S. M. Lewis, Royal Postgraduate Medical School, London.

Dr. Hadassah Gillon

INDIA

Unemployed engineers

The problem of large-scale unemployment of engineering graduates and diploma holders, which was practically unknown a few years ago, has now become crucial in India.

The 19th meeting of the All India Council for Technical Education met at New Delhi in late May to discuss the present situation of the unemployment of technical personnel in the country, approve new guidelines to tackle the vexing problem and suggest measures for the improvement of the quality and standards of technical education in the country.

Figures collected by the Ministry of Education of the Government of India show that about 7,000 to 8,000 engineering graduates and 10,000 to 12,000 diploma holders at present have no jobs. It is calculated that this number is going to swell to 20,000 graduates and 30,000 diploma holders by 1969-70. (The estimated increase for the period 1966-71 in the output of graduates and diploma holders is expected to be about 88,000 and 130,000 respectively.)

Too much dependence by the authorities on the theoretical manpower projections given by various institutions, and the consequent increase in the technical education programs to meet those projections, are the main reason for the problem.

And the problem has been intensified by the postponement of the Fourth Five Year Plan, the recession felt recently in the engineering sector of the economy and reassignment of large numbers of engineers and technicians by state governments after the completion of major projects.

As an immediate solution, it was suggested at New Delhi that a cut in the intake of students into engineering institutions by 35 to 40 percent in the next year would help. The cut would be applied not universally but selectively, in those institutions which lack adequate staff or equipment.

Encouraging the engineers to set up small-scale industries with liberal credit from Government was suggested by the experts who participated in the meeting.

K. S. Nayar

JAPAN

Blood type from the hair

A simpler, quick and accurate way of determining human blood types from hair, fingernail cuttings and tiny bone fragments has been developed at Mie Prefectural University by Dr. Shoichi Yada, professor of medical jurisprudence. The method works even on long-dead human remains.

His technique is approximately the same for a single strand of hair, a few nail clips, or fragments from extremity bones resected during surgery or at time of autopsy. All offer highly reliable blood-type clues, he maintains.

Several other methods exist for determining human blood types by human hair, but all are complex, time-consuming and by no means accurate, says Dr. Yada. A typical method requires 20 hours for an exactness of only 70 percent.

In the Yada technique, a strand of hair is beaten flat, then treated for 10 minutes at a temperature ranging from 50 to 55 degrees C. Heating serves to separate the hair and the antibodies it contains and makes the latter easier to combine with the testing material. Hair is cut into two parts, one of which is inserted into a test tube containing A-type blood cells, the other into a second test tube containing B-type blood cells.

If antibodies of the hair coagulate with A-type blood cells, the owner has type A blood; with B-type blood cells, he has type B. If coagulation occurs in neither test tube, type O is indicated; if the coagulation takes place in both test tubes, the blood is type AB.

Prof. Yada has applied his method clinically with several hundred university students and staff members, and reports 100 percent accuracy. He has also obtained equally consistent and exact results with hair from people who died during the 19th century, though necessarily without verification.

Stuart Griffin