the test-tubes could be cooled off slowly with the caps entirely unscrewed but still fitting tightly enough over the long necks of the test-tube to prevent the contamination, thereby permitting the equalization of air pressure on the inside and the outside of the test-tubes without contamination. (3) Longer caps can be held more securely between the fingers when the cultures are being transferred.

The test-tubes with properly constructed screw caps can prove to be more versatile, and in certain types of bacteriological work can be superior, to conventional cotton-plugged tubes.

S. F. SNIESZKO
MAINE AGRICULTURAL EXPERIMENT STATION,
ORONO, MAINE

PREPARATION AND STORAGE OF AUTOPSY NERVE GRAFTS

THE use of prepared nerve grafts in bridging nonsuturable peripheral nerve gaps is a recognized neurosurgical procedure of great value.[1-5] As a consequence, means have been devised of preparing and storing graft material which facilitate its use at operation. Applicable primarily to experimental work are those measures utilizing direct aseptic transfer.[6-8] In addition efforts at relatively permanent storage utilizing freezing-drying, dehydration and cold storage have been introduced by Weiss and Taylor.[9] The disadvantages in elaborate preparation and storage are at once apparent. The following procedure is offered as a simple flexible method of preparing and storing autopsy nerve grafts which is adaptable to any size or complex of nerves, and simplifies pre-operative sterilization through the expedient of alcohol immersion of the containing vial similar to sterilization of suture material.

The nerve or nerve complex is dissected as cleanly as possible at autopsy and placed in tap water. Using clean instruments the material is freed of all excess fibrous tissue. The stripping of straight nerves such as antibrachial cutaneous, ulnar, median, musculocutaneous, radial, femoral, obturator and sciatic imposes no difficulty. Cleaning of more elaborate complexes such as the brachial plexus requires repeated moistening and dissection of the unwanted tissue. The material is next sized. For most purposes lengths of 7 centimeters suffice. For nerves of smaller diameter this length is rarely required. Appropriate lengths are cut and the pieces of larger girth (median, radial etc.) tied under moderate tension to segments of glass tubing with the string passed through the cylinder of glass. The smaller pieces (antibrachial cutaneous, obturator, etc.) are fixed to ordinary mimeograph paper strips by inserting the ends under slit loops.

Fixation is accomplished by immersion in 10 per cent. formalin for three days. The material is then subjected to running tap water wash over night and dehydrated to 70 per cent. ethyl alcohol. Three changes of ethyl alcohol are employed over a period of 3 days to assist in sterilization. The tissue is then hydrated aseptically by repeated washes of distilled water, then placed in sterile saline overnight. The nerves are then transferred to saline in sterile vials of soft glass and sealed. Sterility is checked by aerobic and anaerobic cultures of the first saline wash.

The larger nerves retain their position in fixation and are freed from the supporting glass for introduction into the vials. The paper mounts of the smaller nerves may be rolled and introduced into the vial with the nerves attached to prevent distortion of the smaller structures freed of their support. Bulky preparations (brachial plexus) do not lend themselves to the storage technique described above. On the few occasions these have been required the material has been spread out and sutured to thick white cardboard and passed through the formalin into 70 per cent. ethyl alcohol in which they have been stored until just prior to operation.

Material prepared as described above has been retained at room temperature for periods up to 5 months with no sign of deterioration. Experiments employing these grafts have given excellent results and the procedure is now standard in the division of neurosurgery.

GENO SACCOMANNO
JOHN VAN BRUGGEN
JEFF MINCKLER
ROLAND KLEMME

ST. LOUIS UNIVERSITY,
SCHOOL OF MEDICINE

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