Fixation and transport in a postal cytodiagnostic service

J. A. HIGGINS and J. P. SMITH *From the Department of Pathology, Christie Hospital, Withington, Manchester 20*

Perfect preservation of cytoplasmic and nuclear detail is essential in cytology: even transient drying of a smear either before or after fixation is deleterious. This creates a problem for a postal cytodiagnostic service as bottles containing inflammable fixative may not be posted. Various rehydration techniques (Bonime, 1961; Koss and Durfee, 1961) have been tried and found unsatisfactory. Dipping the fixed slide in glycerine (Ayre and Dakin, 1946) is satisfactory but makes handling somewhat unpleasant. The fixative detailed below appears to solve the problem by leaving, after evaporation, a waxy protective film over the smear.

Absolute alcohol¹ 100 ml.
Carbowax (1500) 3.0 g.
Glacial acetic acid 0.2 ml. (to pH 5.8-6.0)

If the fixative cannot be collected from the laboratory, the carbowax and acetic acid may be dissolved in 5.0 ml. of warm distilled water. This small quantity of base material can be sent through the post and the alcohol added by the receiving clinic.

The fixative is applied from a plastic dropping bottle on to the smear immediately it has been made and while it is still wet. The slide is then left on a flat surface, not near heat, for about five or 10 minutes during which time the alcohol will evaporate and a waxy film will be left over the smear. The slide is put in a 4 in. × 1 in. transparent plastic bag: several of these then go into a wooden postal slide box of conventional pattern. Slides with a ground area at one end are used in this service: the patient's name can be written in pencil on this area for identification purposes.

Over 2,000 smears have been fixed and posted in this way during the past few months with highly satisfactory results. The method is simple and cheap and there is no danger of contamination between slides.

We are indebted to many medical and lay members of the North Western branch of the Family Planning Association for cooperation in developing this technique.

REFERENCES

- Ayre, J. E., and Dakin, E. (1946). *Canad. med. Ass. J.*, **54**, 489.
Bonime, R. G. (1961). *Cancer Cyt.*, **4**, 22.
Koss, L. G., and Durfee, G. R. (1961). *Diagnostic Cytology and its Histopathologic Bases*, p. 337. Pitman, London.

¹Spiritus meth. indust., B.P. may be substituted for absolute alcohol.

Received for publication 12 February 1963

Book Reviews

THE SCIENTIFIC BASIS OF MEDICINE: ANNUAL REVIEW, 1962.
Edited by the British Postgraduate Medical Federation.
(Pp. xi + 365; illustrated. 40s.) The Athlone Press, London: University of London. 1962.

A few years ago when I was asked to review a previous volume in the series the Scientific Basis of Medicine, I described it as a series of 'bedtime stories', and I believe this description can still be used for the present annual review of 1962 since each lecture is a 'thriller' and provides much food for thought.

Pathologists in whatever field will find here a series of lectures on a variety of subjects all of which will have a bearing on the future of his department, for research procedures often become the routine investigations of tomorrow. The lectures of Knox, Glynn, Court Brown, Lennox, Pearse, and Kay already suggest that laboratories may have to extend the range of investigations as indicated by these authors, and each clarify some theoretical considerations of each subject. The remaining papers in this edition, with the exception of that of Nabarro and Collier, which is rather more of a clinical nature than the others, have important theoretical implications but are none the worse for that, and certainly suggest a future basis of research.

Perhaps the most satisfying nature of the lecture series is the high standard of editing and the production of the lectures in standard form, which makes all of them satisfying reading. Personally I feel that every pathologist should read these lectures as they will be of value to him as a guide to the future.

E. M. DARMADY

DE INTERCAPILLAIRE CELLEN VAN DE GLOMERULUS By Paul Michielsen. Foreword by J. Hamburger. (Pp. 243; 43 figures. Belg. fr. 410.) Arscia Brussels: Uitgaven N.V. 1962.

This monograph by Paul Michielsen is written in Dutch with a résumé in French and a short summary in English and is an account of an electron microscopic study of the intercapillary cells of the glomerulus in normal animals and in human pathological material obtained by renal biopsy.

As much of the detailed observations and technique are in Dutch, it may be difficult for all but the multilingual investigator to get the maximum value from this work. Nevertheless it is supported by 23 illustrations and 349 references, and it is obvious that it is a careful appraisal of recent work on electron microscopy of the glomerulus. His investigations suggest to him that intercapillary cells of the glomerulus are not fibroblasts but smooth muscle cells, and supports the concept that the pathological lesion in lobular glomerulonephritis is a massive proliferation of intercapillary cells.

He also believes that the juxtaglomerular apparatus consists of modified smooth muscle cells and the intercapillary cells are peripheral prolongations of the same