

A SIMPLE AND NEW APPROACH IN PLASTINATION TOWARDS TEACHING TEARLESS ANATOMY

V. THUTHIKARAN AND D.D. IHALAGEDERA

Department of Basic Sciences, Faculty of Dental Sciences, University of Peradeniya

Anatomy is one subject that traditionally has been taught in great detail mainly to pass the examination (Kluchova, 2000) Those students with the advantage of retentive memory do well in such examinations, but students with an encoring mind and who enjoy solving problems in a logical way do not flourish (Nair, 1926)

It is essential to encourage problem solving early in the student's medical career to establish deep learning necessary for their future. The importance should be stressed on the clinical application of the subject. To reach this goal and to bridge the gap between clinical and pre-clinical there should be specimens that could be readily demonstrated in clinics, directly can be related to investigations, life colour, and long lasting. The answer would be plastination.

Plastination is a process by which biological and pathological tissues are preserved in a life-like state by impregnating them with some polymers (Moncure, 1992). Plastinated organs are life like, odorless, dry, lightweight, can be easily handled, do not disintegrate and require no special storage facilities. The method of plastination was introduced around 1978 in Germany. Technically they should last several decades. So the valuable pathological specimens can be carried for generations.

Three main types of plastination technique were introduced. But these methods were expensive and more suitable for the developed nations.

The aim of the present research is to replace one of the three methods (E-12 method) with an in-expensive method to suit Sri Lanka. The new method was developed using the freely available materials in Sri Lanka.

In the new method developed the processing time was brought down from few days to few hours. Acetone that was originally used to embed the specimen before slicing was replaced with paraffin wax, which eliminated the need of - 85 centigrade deep freezer. The Epoxy 12 resin is replaced with clear resin, which brought the cost drastically down. (15 Kg of Epoxy resin and curing material costs about Rs.200, 000/= where the same quantity of clear resin accost only Rs.4000/=)

In this method the frozen body is cut into 5mm thick slices and preserved like sheets giving the appearance of macroscopic slides. With the achievement of clinical investigations like x-ray, MRI & CT scan, specimens preserved by this method can directly be compared with them. They need no gloves to handle and can be taken to clinics when studying or teaching. The specimens are used to explain to the students the importance of anatomical land marks and relationships.