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Original Research Article

A Cost Effective Mounting Medium QAA Mountant

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ABSTRACT

Use of Quickfix, a resinous product easily available in the market for cementing glassware, plastic, Bakelite etc., was used with amylacetate as a solvent for preparation of mounting medium. Three parts of Quickfix and 2 parts of amylacetate were mixed thoroughly with a glass rod. Amylacetate was added slowly to Quickfix. After mixing, the medium was left standing to eliminate air bubbles. Stained paraffin sections were cleared in amylacetate, covered with a sufficient quantity of the medium and mounted with a cover slip, before drying could occur. Sections were kept in the oven to dry for few hours at 37^{o} C. QAA (Quickfix-amyl acetate) has been identified as a cost effective, reliable alternative mountant.
Key Words: Quick fix, Amyl acetate, Mounting medium

INTRODUCTION

Numerous experiments have been made with resins and plastics in search of a more acceptable mounting medium. Mounting media which have a refractive index similar to that of glass slides (1.5 - 1.52) are generally used to match that of the tissue components for maximum transparency. [(1)]

Synthetic resins are quite neutral such that the basic aniline dyes are well preserved in them. The resins differ importantly in refractive index, rate of setting, drying to a non adhesive state degree of residual unsaturation, solubility in solvents, viscosity of solutions, rate of drying and in tendency to form air bubbles in mounts. Invariably plasticizers are added to combat air bubbles formed, however they tend to retard to non stickiness by addition of plasticizer. [(2)]

Quickfix adhesive resinous product easily available has been in use in histology as a mountant for quite some time. [(3-5)] Amylacetate is an isomer used as solvent in many pharmaceutical industries. Considering the availability and cost effectiveness of the products the present study was carried to prove that the QAA-qucikfix-amyl acetate is an alternate mounting medium that can be used for routine histology slide preparation

MATERIALS & METHODS

Quickfix – 3 parts
Amylacetate – 2 parts

Amylacetate was added slowly to quickfix and mixed with a glass rod. After mixing, the medium was left standing to eliminate air bubbles. Stained paraffin sections were cleared in Amyl acetate and before drying a sufficient quantity of the medium was placed on the slide and covered with a cover slip. Sections were kept in the oven at 37^{o} C for few hours to dry.

RESULTS

Our results showed no difference between the conventional mounting method and the QAA mounted slides (figures 1 -4).

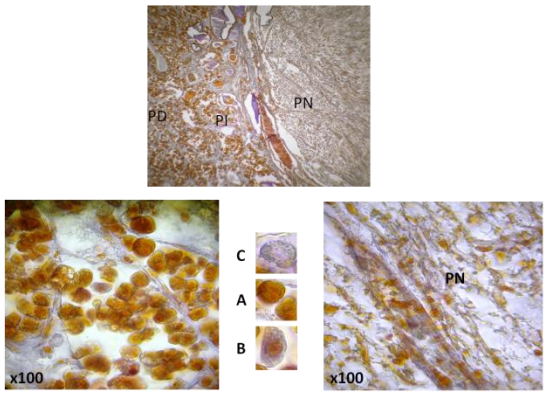

Figure:1 Photomicrograph of the Wilson Ezrin stained Pituitary gland .
1a) Pars distalis (PD); 1(b)Pars nervosa (PN)
Pars distalis with cell types: Chromophobes (C), Acidophils (A) , Basophils (B)

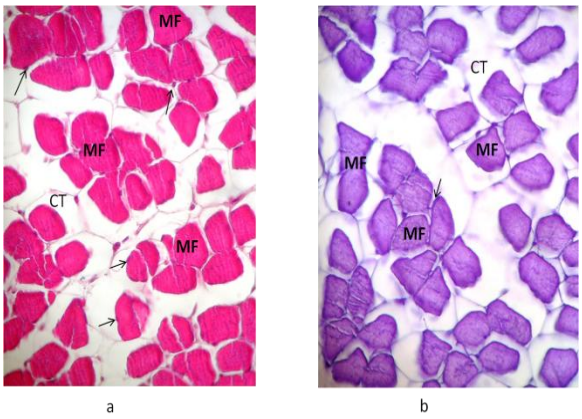

Figure: 2 Photomicrograph of the T S of the Skeletal Muscle H &E (a) X40
MV10 Stain (b) X40 Muscle Fibres (MF), Connective tissue (CT),nuclei (arrow)

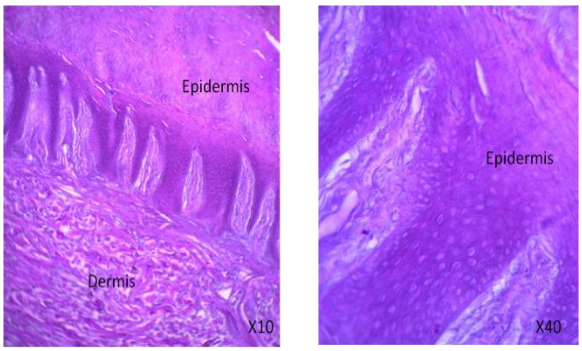

Figure: 3 Photomicrograph of the thick skin MV 10 stain

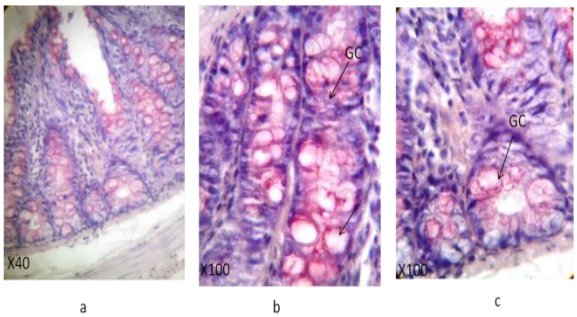

Figure: 4 (a,b,c) Photomicrograph of PAS stained Crypts of Lieberkuhn with evident Goblet cells (GC) stained magenta red along with blue/purple stained other cell types of small intestine

DISCUSSION

The resinous product of Quickfix is adhesive cement, easily available in the market for cementing glassware, plastics, bakelite etc. Quickfix is manufactured by Wembley Laboratories Limited Kathua (J&K). Its physical properties are not affected by water, weather and heat.

The organic solvent of amylacetate which is used to dissolve the resin is a mixture of isomers, principally iso -sec & n amylacetate. Iso amylacetate is a clear colourless liquid with a sharp fruity odour. Weight per ml is about 0.87g, with the boiling point about 140^{o}, slightly soluble in water, miscible with alcohol and ether. It is stored in air tight containers. Amyl acetate is used as a pharmaceutical and industrial solvent. [(6)]

It is an ester with the chemical formula CH_3 COO $(CH_2)_4$ CH_3 and the molecular weight is 130.19g/mol. The

compound is the condensation product of Acetic acid and 1-pentanol. However esters formed from other pentanol isomers, Amyl alcohols or mixtures of pentanols are often referred to as Amyl acetate. [7]

Present study has fulfilled the requirement of an alternate mounting media which can be used routinely. Components - quickfix and amylacetate are easily available, cheaper and cost effective mounting materials. QAA mounted slides can be used for routine as well as special stained sections without any hindrance. It is highly compatible with photomicrography as demonstrated in the figures (1, 2, 3 and 4).

Chromosome spreads and sperm smears were also mounted using this medium. Slides mounted with this medium were stored in slide boxes for a period of more than one year and observed from time to time, no fading or deterioration was noticed in these slides mounted with QAA.

CONCLUSION

A cost effective mounting medium has been reported. The materials are easily available and it is easy to prepare in the laboratory. The novel mountant QAA produces greater clarity and appears to be ideal for photomicrography.

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