

Comparison of Haematoxylin and Eosin stain between tissues processed and stained with Xylene/Alcohol and Ottix

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Introduction Xylene is an aromatic hydrocarbon used in histopathology laboratories. Carcinogenesis and toxic effects on various tissues are hazards of xylene. Ottix, a non-aromatic hydrocarbon, is an innovative xylene substitute developed with the composition of alkyl C5-C12, aliphatic alcohol and ethanol (An alcoholic anhydrous component and an aliphatic hydrocarbon mixture). The objectives of this study were two fold: one was to compare the quality of H & E staining between histology slides made using ottix both for processing and staining with conventional processing and staining method. The other was to compare the quality of H & E staining between slides prepared using ottix only for processing with conventional processing and staining method.

Methodology Three tissue blocks were obtained from the same site of the hysterectomy specimens (n=79). Two test blocks were processed using ottix, one section was stained with Ottix / H&E stain and other with Xylene/H & E stain. The control block processed using conventional method was stained with Xylene/H & E. Nuclear stain, cytoplasmic stain and overall appearance were scored (1-good, 2-satisfactory, 3-unsatisfactory) for all three sets of slides. The scores of the test slides were compared with the control. The results were analysed by the non parametric test, Mann-Whitney U test using the minitab statistical package to determine the statistical significance.

Results There was no significant difference in Ottix processed and Ottix/H&E stained slides and Ottix processed and Xylene/H&E stained slides when compared with conventionally processed and H&E stained slides in nuclear or cytoplasmic staining and overall appearance.

Conclusion Ottix can be substituted for xylene in routine tissue processing and in H&E staining without compromising the quality of histology.