LETTER TO EDITOR

Easy Lens Cleaning Solution for Laboratory Microscopes

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Sir,

Microscopes are used largely for the morphological examination of cells, microorganisms and other microscopic structures[1]. Considering the high cost of microscopes and its immense importance in patient care, their maintenance is of utmost value and the quality of the microscopes should not be compromised under any circumstance, especially in the developing countries.

The most widely used technique to clean the objectives of a microscope, especially the 100X objective, involves wiping out of immersion oil from the same and its surrounding mount by a piece of lens paper or a soft piece of clean cotton cloth followed by a cloth dampened with small amount of xylol. The oil immersion objective is then dried immediately and cleaned with lens paper[2]. Objectives should not be soaked with xylol because it may soften the cement holding the lens in its mount. Alcohol or acetone should not be used either, even for wiping the lens as these may also dissolve the cement[1,2,3]. In addition, the oil immersion objectives which are in regular use and always come in contact with sticky oil can not be cleaned properly by wiping with xylol soaked cloth every time. World Health Organisation (WHO) specified criteria for cleaning the optics require a special solution, consisting of 40% petroleum ether, 40% ethanol and 20% ether[4].

We found that a swift wiping with ether-alcohol mixture (1:1) soaked cotton cloth on the oil immersion objective generates better results than the conventional methods. This mixture is more volatile than xylol and the contact time with cement is shorter. Nevertheless to get a satisfactory result the oil immersion objective can be wiped off by a piece of soft lens paper followed by wiping with a small piece of cotton cloth soaked in ether-alcohol mixture and a dry cotton cloth respectively. It is a very effective, efficient and less time consuming method to clean the objectives scrupulously.

References

1. Davis GL. Microscopy. In: Sonnenwirth AC and Jarlett L (eds). Gradwohl's clinical laboratory methods and diagnosis (8th ed.) New Delhi: BI Publications, 1990; 12-13.
2. Cheesborough M. In: District laboratory practice in tropical countries. UK: Cambridge University Press, 1999; 121.
3. Chaplin K. Clinical microscopy. In: Murray PR, Baron EJ, Pfaller MA, Tenover FC and Yolken RH (eds). Manual of clinical microbiological, (6th ed.). Washington DC: ASM Press, 1995; 36.
4. WHO. In: Maintenance and repair of laboratory diagnostic imaging and hospital equipment. Geneva: 1994; 39.