

VALUE OF AUTOFLUORESCENCE IN THE DIAGNOSIS OF FUNGAL INFECTIONS OF PARANASAL SINUSES

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ABSTRACT

Fungal infections are extremely common with varying degrees of severity. Mortality and morbidity usually varies depending on associated risk factors and can be high due to disease dissemination. Incidence of paranasal sinus fungal infection is highest in USA and India. Study was done to assess value of fungal autofluorescence as rapid diagnostic approach. Results were compared with histopathological and microbiological examination.

Prospective study of 30 clinically and radiologically suspected fungal rhinosinusitis cases was done for eighteen months in tertiary care teaching hospital. Study was done by histopathological (Hematoxylin and Eosin and special stains), microbiological examination (KOH and/or culture) and autofluorescence (under Nikon fluorescent microscope at wavelength of 334-365nm using dichroic mirror filters 40-455).

Fungal rhinosinusitis (FRS) was observed in 24 (80%) cases on histopathology, special stains and autofluorescence. KOH mount and/or culture showed positive results in all 30 cases. There was highly significant statistical concordance of results of FRS cases observed on histopathological examination, special stains, autofluorescence, microbiological examination ($p < 0.001$). The sensitivity and specificity of diagnosis by autofluorescence was 83.3% and 100%.

Present study indicates that fungal autofluorescence is beneficial in rapid diagnosis and screening of fungal rhinosinusitis cases. There is significant correlation of results of autofluorescence when compared with histopathology, special stains, KOH mount and/or culture.

KEYWORDS: Autofluorescence, Aspergillosis, Fungal rhinosinusitis, Histopathological, Microbiological

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