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FUNGAL CONIDIA IN CYTOLOGY SMEARS - INFECTION OR CONTAMINATION?

Pathology

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ABSTRACT

Introduction- Presence of exogenous elements or contaminants can occasionally complicate interpretation of findings in Cytological specimens. The reported contaminants in cytology include pollen grains, vegetable matter and anemophillus fungi. Several types of airborne fungal spores have been reported in cytological specimens with Alternaria species being one of the candidates. Their presence has been occasionally reported in cervico-vaginal smears, cerebrospinal fluid and urine. No previous reports have described contamination with Alternaria species in the pleural fluid.

Case Report-Presence of club shaped macroconidia of Alternaria species was observed in four cytological smear specimens, with two cases of cervico-vaginal smears and two in the pleural fluids. In case of cervico-vaginal smears, there was minimal associated inflammation or reactive changes in the resident cells. All patients were HIV negative, not receiving any immunosuppressant drugs and there were no signs and symptoms of disseminated fungal infection.

Conclusion-Presence of exogenous spores of anemophillus fungi like Alternaria can pose a diagnostic challenge during the interpretation of cytological samples. Cytopathologists should be aware of this entity as it may lead to diagnostic dilemma and contamination may be considered as true infection that may lead to inappropriate treatment with Antifungal drugs.

KEYWORDS

Alternaria, Conidia, Contaminant, Pleural, Cervicovaginal

INTRODUCTION-

Cytology plays an important role in diagnosing infectious diseases. Presence of exogenous elements or contaminants can occasionally complicate interpretation of findings in cytological specimens. The reported contaminants in cytology samples include pollen grains, vegetable matter and anemophillus fungi[1]. Several types of airborne fungal spores have been reported in cytological specimens with Alternaria sp. being one of them. Their presence has been occasionally reported in cervicovaginal smears[2], CSF and urine. No previous reports have described contamination with Alternaria sp. in the pleural fluid.

CASE REPORT-

Presence of club shaped macroconidia were observed in two pleural fluid samples(Fig 1a,1b) and two cervico- vaginal smears(Fig 2a,2b) over a period of 3 months(January to march 2017).They appeared brown in color with internal longitudinal and transverse septations. There was minimal associated inflammation or reactive changes. All these patients were HIV negative , not receiving any immunosuppressant therapy and there were no signs of disseminated fungal infection.

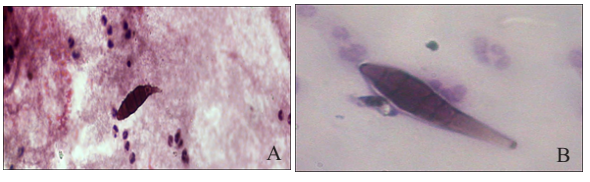

Fig 1a,1b- Pleural Fluid Smears Showing Brown Colored

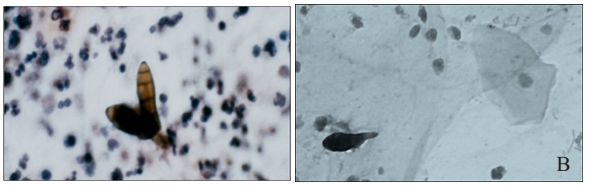

Fig 2a,2b- Cervicovaginal Smears Showing Club Shaped Macroconidia

DISCUSSION-

Alternaria is an airborne fungus characterised by the presence of brown colored conidiospores which have been described as club/racket / snowshoe shaped with internal transverse and longitudiinal septations. It is usually non pathogenic and occurs as a saprophyte. It has been reported as one of the contaminants in the laboratory cytological samples. The route of contamination is airborne wherein aerial spores float on the slides at the time of slide preparation or staining. There is usually a limited or absent inflammatory response. In rare circumstances especially with underlying immunosuppression, it may become pathogenic and cause infection of bone, nasal sinuses, ear, eye, skin.

CONCLUSION-

Presence of exogenous spores of Alternaria sp. can pose a diagnostic challenge during the interpretation of cytological samples. Cytopathologists should be aware of this entity as it may lead to diagnostic dilemma and possiblity of contamination may be considered instead of true infection, as this may lead to inappropriate treatment with antifungal drugs.

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