Epidemiological, Clinical & Aetiological Profile of Neglected Tropical Disease Eumycetoma, N India

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INTRODUCTION

- Eumycetoma: neglected tropical disease: chronicity, high relapse
- It is an important public health problem in Africa and S Asia.
- India and Sudan have higher than average prev of infection.
- Regional distributio :Sri Lanka, India, Pakistan, Sudan, Senegal, Somalia, Mexico, S America.
- India: Rajasthan and South India: Eumycetoma one-third of the total cases: UP, CRajasthan, while actinomycotic mycetoma is present in S India, SE Rajasthan, Chandigarh ^{4,5}.
- Prompt diagnosis and rapid treatment is crucial

METHODS

- Pts with mycetoma seen in last 14 years (Jan 2004-June 2018) : Dept.Microbiology, VMMC and Safdarjung Hospital. All :Actinomycetoma were excluded.
- Diagnosis: triad of tumefaction, discharging sinuses, grains
- Pt inclusion: age, gender, occupation, site , duration of disease, and bony inv by X ray
- Samples: KOH mount, histopath. examination, culture.
- Nonsporulating mold:slide culture. Nonsporulating, unusual isolates: sequencing of ITS, D1/ D2 region.

- Pts Eumycetomas: surgical debridement, oral AFT: ketoconazole, AMB, voriconazole, itraconazole
- actinomycetomas: Sulfamethoxazole-Trimethoprim, Streptomycin, Amikacin with or without Dapsone, debridement.

RESULTS

- Totalof59skin tissue samples/grains were received from Dept. of Surgery,Dermatology. 30 eumycetoma, actinomycetoma (4).
- 30 eumycetoma: Age group: adults(15-47y:males:farmers, labo
- MC: foot (23 of 30, 76.66%). Extra-peda: hand, trunk.
- Histopathology: presence of grains in center of abscess :neutrophils, lymphocytes, histiocytes with or without FB giant cells.

Psedudoallescheria boydii

Exophiala jeansellmei

- Spectrum:*A.flavus*(7),*A. nidulans* (4), *Fusarium solani*(4), *Acremonium iliense* (4), *Curvularia lunata*(3),*Exophiala jeanselmei*(1), *Madurella mycetomatis*(1), *Acremonium blochii* (1), *F incarnatum* (1), *Pseudoallescheria boydii*(1), *Pyrenochaeta romeroi* (1), *Lasidiopodia theobromae* (1) *Phanerochaete chrysosporium* (1).
- White grain mycetoma were more common than black grain
- Followup:mostpts: successful: chemoprophylaxis 1 pt: amputation.

DISCUSSION AND CONCLUSIONS

- Presently, 33 species are proven as agents of mycetoma: 23 are eumycotic.
- Mycetoma affects men as compared to women in rural areas: barefoot pts: farmers, labourers: present study, 25/ 29 ps were men: reports from Sudan: nature of their work: soil harbours: pt exposed traumatic SC inoculation organisms
- Majority pts: yadults:mean age 25 ± 15 y:

- Risk factors: low SE status, insuf nutrition, poor hygiene.
- Mean disease duratn: long: painles lack of HE, low SE , lack of facility
- Direct microscopic demonstn fungi in tissue sections: confirmed
- Clinical and histopath. features of mycetomas, irrespective of etio
- Present study: poor treatment outcome: 11 pts cured : prevreports
- Drug penetration is poor: BG barrier: entangled hyphae.
- AFST: evolving stage: correct identification species: crucial
- Prompt diagnosis, rapid TT:crucial
- Eumycetoma: Neglected tropical ds with serious complications, low curerate, high follow-up dropout
- Route of infection, susceptibility and resistance: poorly understood, lack of preventive control measures: health education only tool: dec disease morbidity and mortality.

Author	Year	Place of study	Total	AM	EM	M/C sites	M/C species isolated
Desai et al[8]	1970	Bombay, India	40	40	Nil	Foot	Nocardia
Reddy et al[9]	1972	Vishakhapatnam, India	50	36	14	Foot	Streptomyces madurae, Madurella mycetomatis
Venugopal TV et al	1977	Madras	90	61	29	Lower extremities	Nocardia spp, A.pellitieri
Singh et al	1979	Rajasthan, India	262	39	223	Extremities, perineum	Madurella mycetomatis, Streptomyces madurae
Talwar et al	1979	North India	60	48	12	Foot/lower extremities	Actinomadurae pelletieri, Actinomadura madurae, Phialophora jeanselmei
Mathur et al	2008	Jodhpur, Rajasthan	73	25	48	Lower extremities	Madurella mycetomatis
Somnath Padhi et al	2009	Hyderabad, India	13	8	5	Foot/lower extremities	Madurella mycetomatis, Actinomadura madurae
This study	2018	New Delhi, India	33	4	29	Foot/lower extremities	Aspergillus flavus (7), Aspergillus nidulans (4), Fusarium solani (4), Acremonium kiliense (3), Curvularia lunata (3)