

Histoplasmosis in Bangladesh

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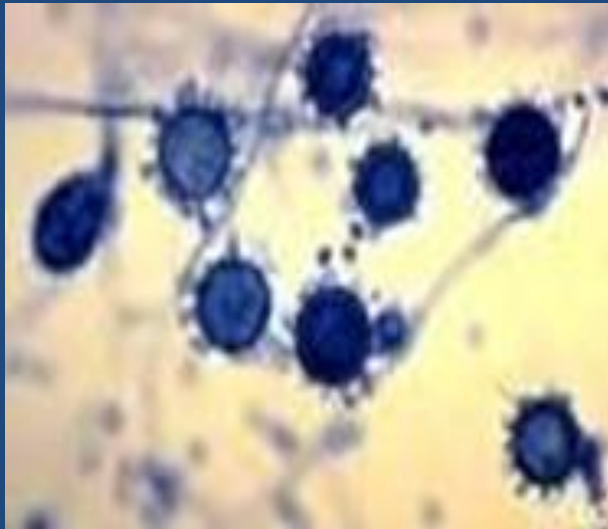
BIRDEM

- ***Background and introduction***
- Objectives
- Methods
- Results
- Discussion
- Conclusion

Deep fungal infection caused by-
Histoplasma capsulatum

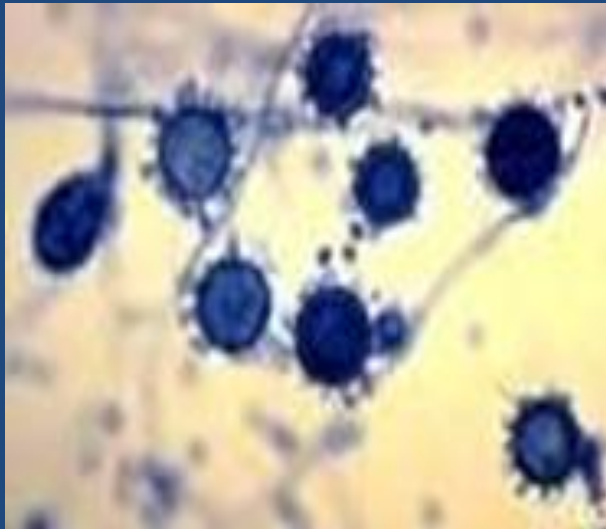
Deep fungal infection caused by- *Histoplasma capsulatum*

Mycelia

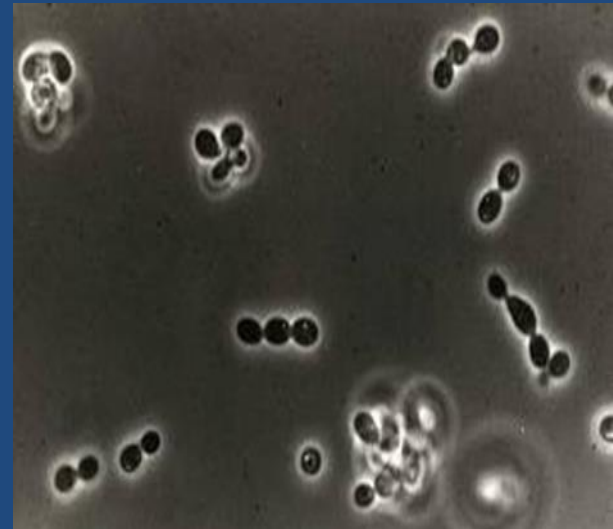


Deep fungal infection caused by- *Histoplasma capsulatum*

Mycelia



Yeast



Distribution

Distribution



The distribution of histoplasmosis throughout the world (marked yellow)



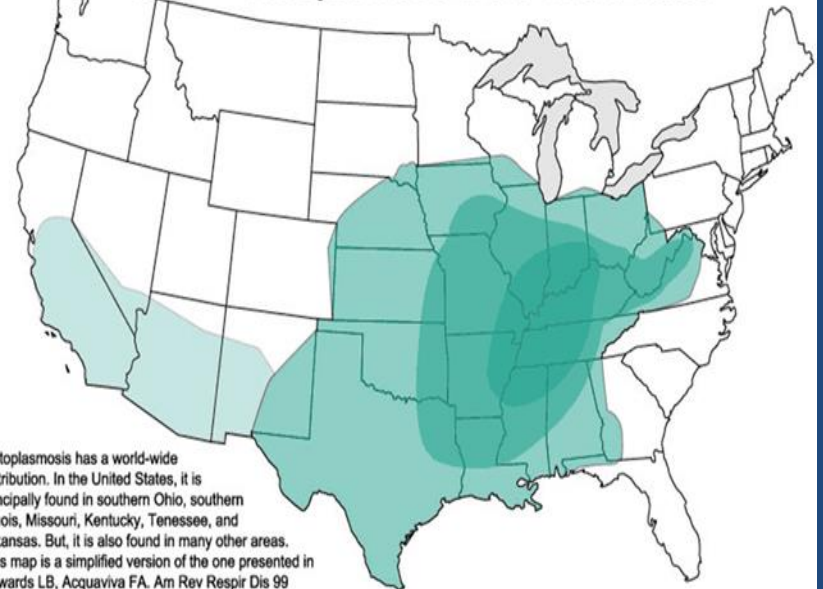
Distribution



The distribution of histoplasmosis throughout the world (marked yellow)



Simplified Map of the Distribution of Histoplasmosis in the United States



Histoplasmosis has a world-wide distribution. In the United States, it is principally found in southern Ohio, southern Illinois, Missouri, Kentucky, Tennessee, and Arkansas. But, it is also found in many other areas. This map is a simplified version of the one presented in Edwards LB, Acquaviva FA. Am Rev Respir Dis 99 (Suppl.): 1-132, 1969

- Immunocompetent: asymptomatic or mild symptoms
- Immunodeficient: dissemination occurs to involve lungs, oropharynx, lymph nodes, liver, spleen, skin and suprarenals
- Symptoms depends on organ(s) involvement
- Fever and weight loss are common
- ***Mimics tuberculosis***

Bangladesh

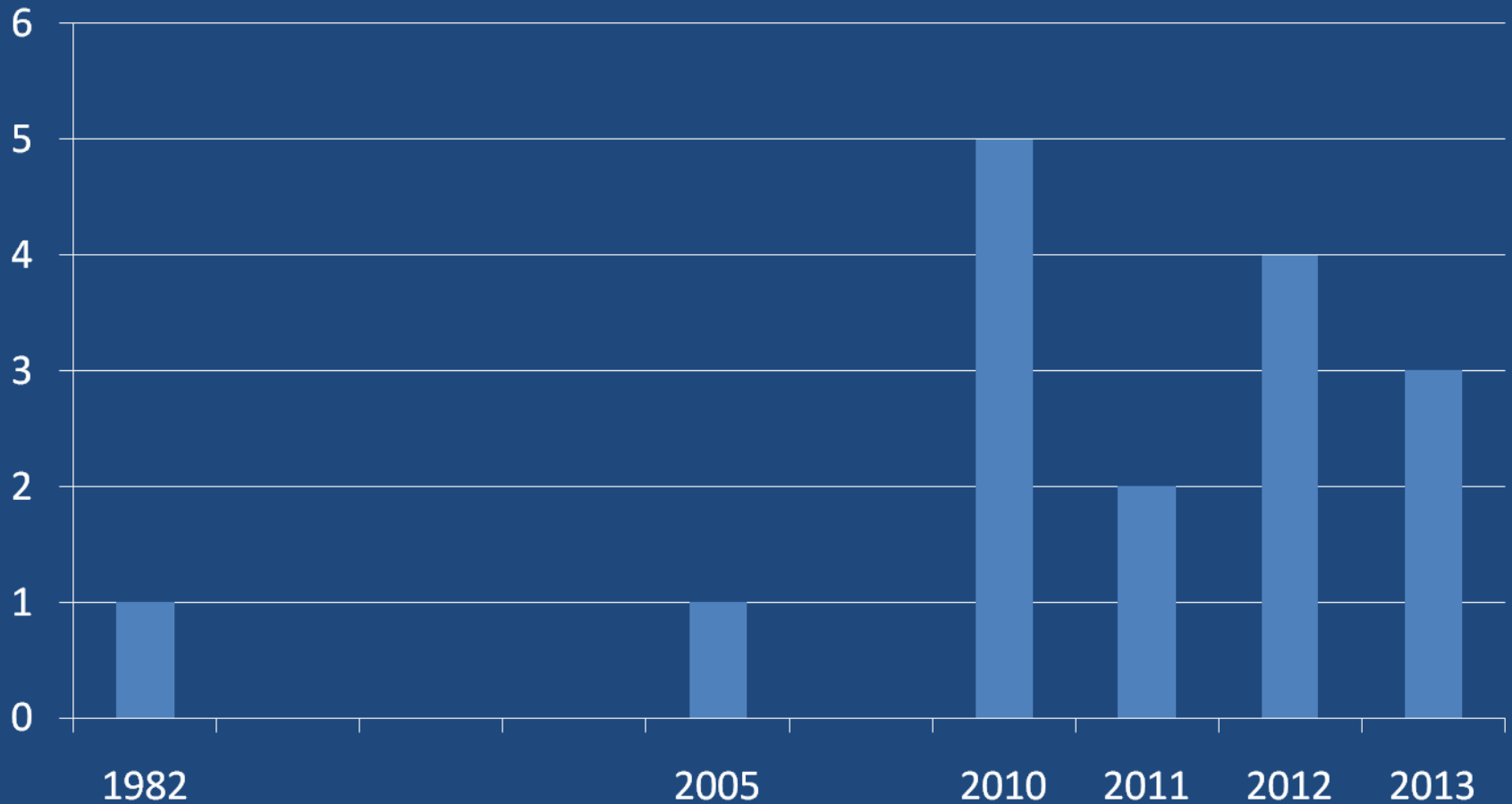
- Histoplasmosis surveys - in 1961 and 1968-69
 - ***Positive skin reaction in 12-23% patients***
- First clinical case was reported in 1982
- Cases are infrequent but increasing

Islam N, Islam M, Muazzam MG. A histoplasmosis survey in East Pakistan. Trans Roy Soc Trop Med Hyg 1962;56(3):246-249.

Islam N, Sobhan MA. Sensitivity to histoplasmin, coccidioidin, blastomycin and tuberculin in East Pakistan. Am J Trop Med Hyg 1971;20(4):621-624.

Islam N, Chowdhury NA. Histoplasmosis from Bangladesh: a case report. Bang Med Res Counc Bull 1982;8:21-24.

Year-wise number of cases reported



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Objectives

- Socio-demographic characteristics
- Clinical features
- Diagnostic test
- Treatment
- Outcome

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Methods

- Mostly **retrospective data retrieval** from **1982-2013**
- Key words- Bangladesh, *Histoplasma capsulatum*, histoplasmosis
- “PubMed”
- “Banglajol” for articles in local journal
- “Google” search engine - gray literature search
- Personal communications

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Cases published

Serial number	Authors	Journal	Year
1	Islam N, Chowdhury NA	BMRC Bull	1982
2	Rahman MM, Hossain SM, Dewanjee AK, Sultan MT, Faiz MA, Rahman J	JBCPS	2005
3	Rappo U, Beitler JR, Faulhaber JR, Firoz B, Henning JS, Thomas KM, et al.	Transpl Infec Dis	2010
4	Ahmed S, Shazzad MN, Ferdous-Ur-Rahman M, Kader MA, Azad MAK, Haq SA	BSMMU J	2010
5	Pervez MM, Cobb B, Matin N, Shahrin L, Ford ER, Pietroni M	J Health Popul Nutr	2010
6	Mahbub MS, Ahsan HAMN, Miah MT, Alam MB, Gupta RD, Arif KM, et al.	J Medicine	2010
7	Parvin R, Amin R, Mahbub MS, Hasnain M, Arif KM, Miah MT, et al.	J Medicine	2010

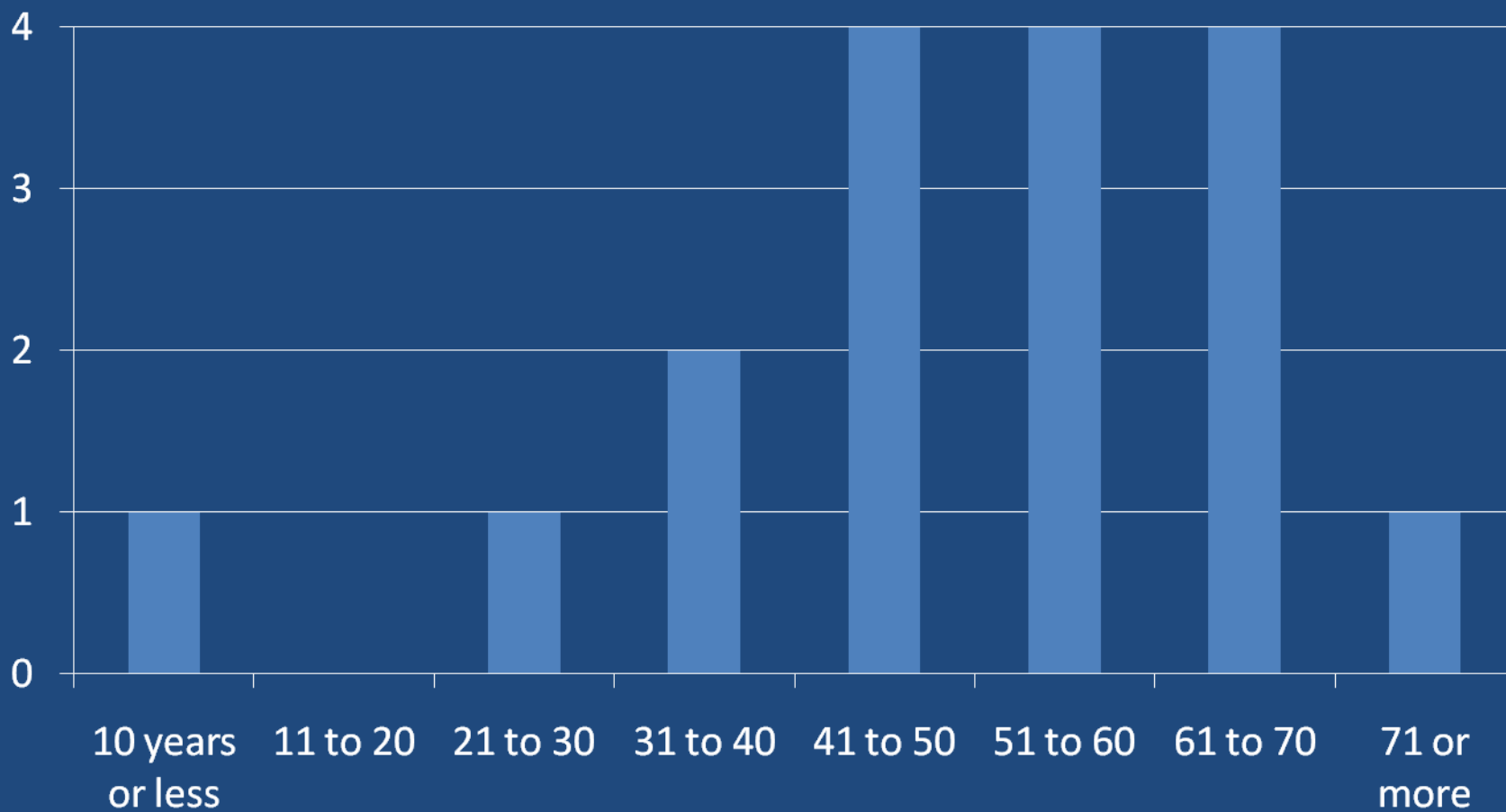
Cases published

Serial number	Authors	Journal	Year
8	Amin MR, Shumi F, Khan H, Abdullah SA, Alam S, Hussain AR, et al.	J Medicine	2011
9	Sarwar-E-Alam ABM, Hasan Z, Khan MAI, Zulkiful MA, Samdani ATM, Islam MT, et al.	JBCPS	2011
10	Habib SK, Patwary SA, Khan MAI, Miah MT, Gupta RD, Ahsan HAMN	J Medicine	2012
11	Bhuiyan MNZ, Giti S, Islam MS, Uddin MN	JAFMC	2012
12,13	Sadat SMA, Rita SN, Kahhar MA	JBCPS	2012
14	Parvin R, Uddin AKMR	J Gen Pract	2013
15	Yasmin R, Rahim MA, Haque HF, Dewan P, Ahmed JU, Ahmed AKMS, et al.	Bangladesh J Medicine	2013
16	Singha CK, Biswas E, Jahan F, Biswas PK	J Medicine	2013

Socio-demographics

- Total 17 (published 16 + unpublished 1)
- All were male
- From all administrative divisions of the country
- Age 8-75 years

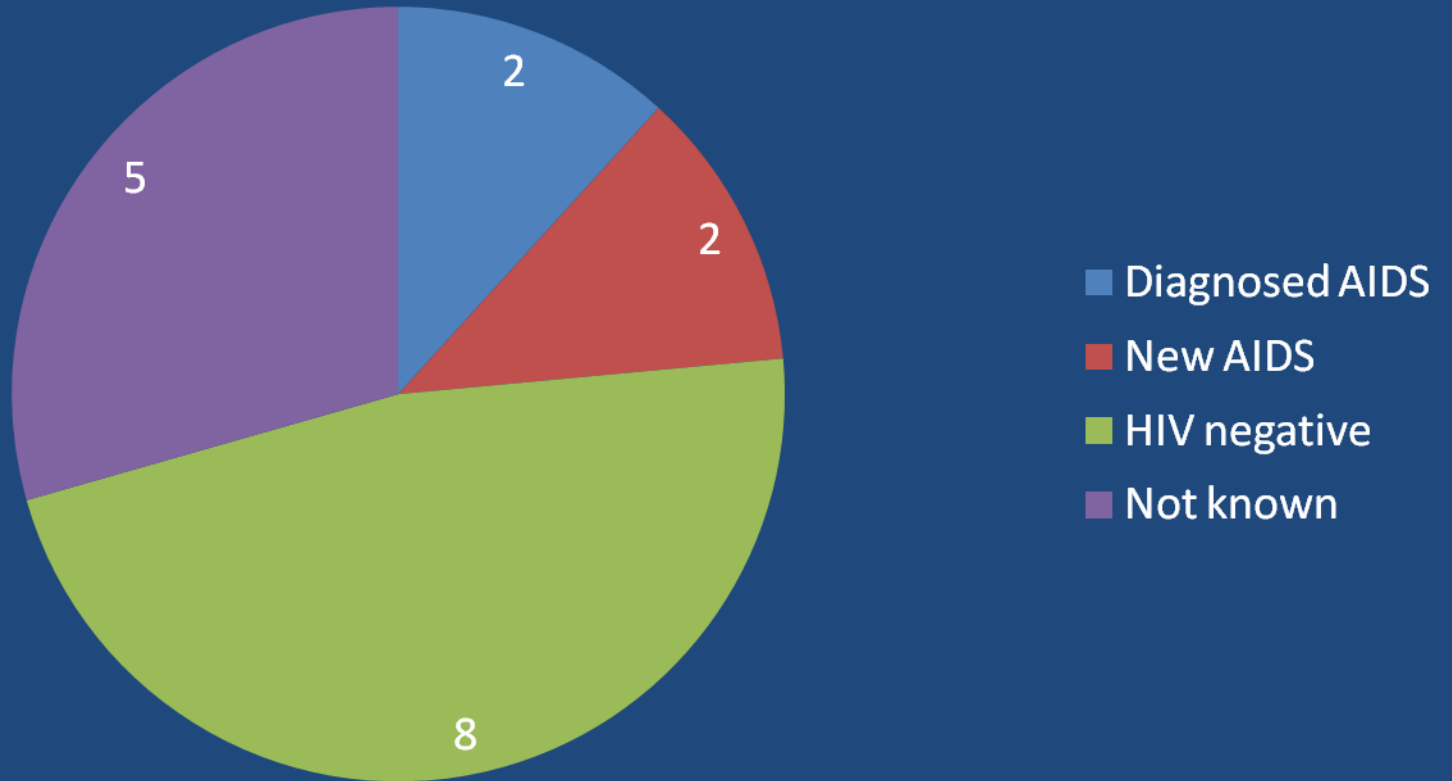
Age of the patients



Socio-demographics

- Cultivators - 6
- Smoker - 5
- Travelling history - 4 (USA and India, Myanmar, Saudi Arabia and one sub-Saharan African country)

HIV status



Immunodeficiency

- AIDS - 4

CD4 count in known AIDS patients were 19/ μ L and 4/ μ L

- Diabetes mellitus - 2 (AIDS 1 + renal transplant recipient 1)
- Post-renal transplant - 1 (DM)

Clinical features

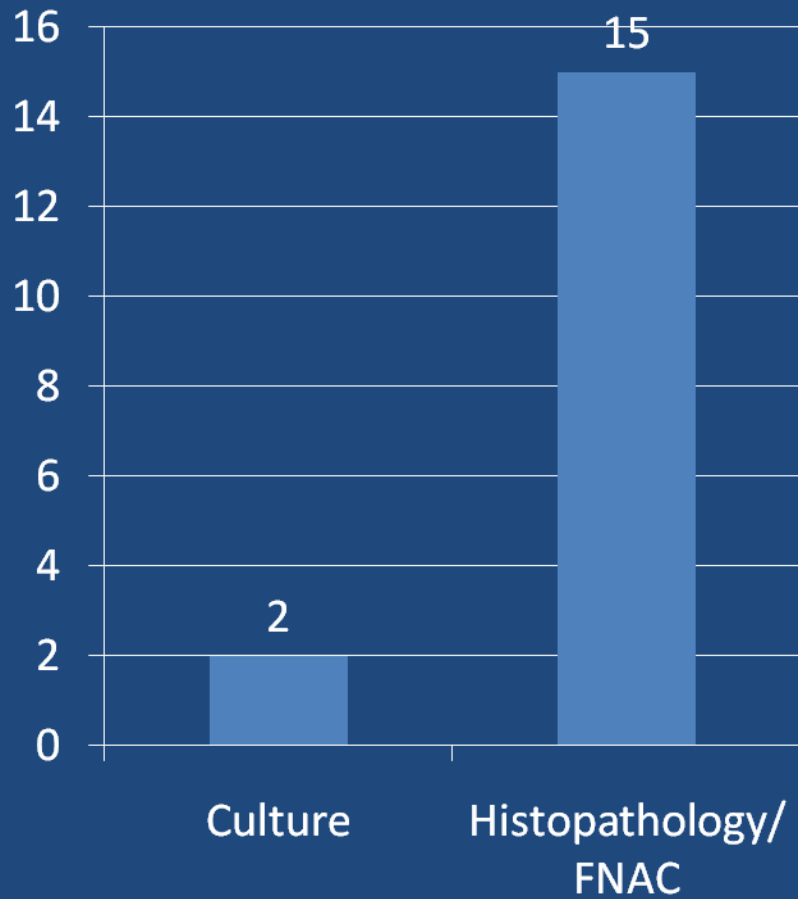
Symptom	N (%)	Sign	N (%)
Fever	14 (82.4)	Anaemia	8 (47.1)
Weight loss	10 (58.8)	Cervical lymphadenopathy	6 (35.3)
Oro-pharyngeal ulcer	7 (41.2)	Generalized lymphadenopathy	3 (17.6)
Anorexia	5 (29.4)	Hepatomegaly	3 (17.6)
Skin rash and nodules	4 (23.5)	Hepatosplenomegaly	4 (23.5)
Respiratory symptoms	6 (35.3)	Splenomegaly	1 (5.9)
GI symptoms	6 (35.3)	Abnormal chest findings	4 (23.5)

Investigations

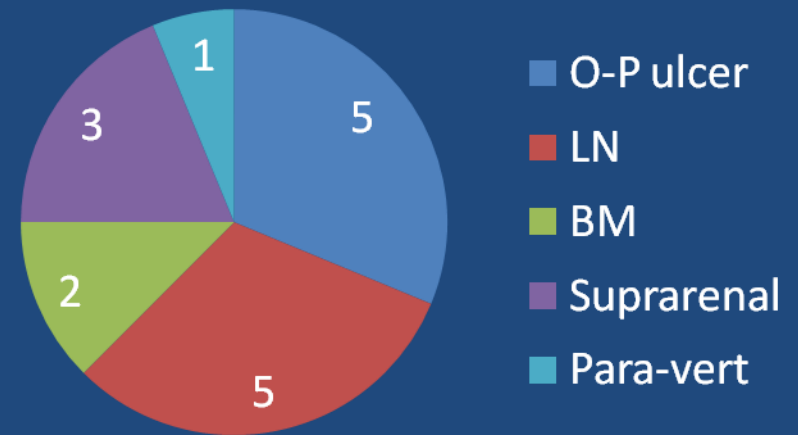
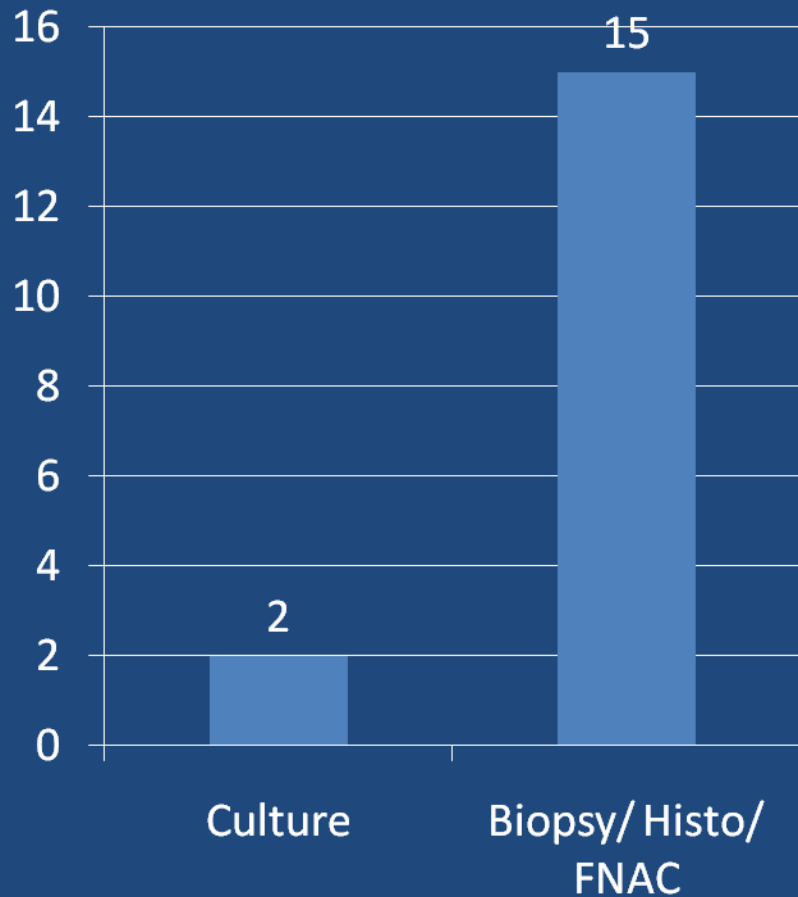
Findings	N (%)	Findings	N (%)
Anaemia	8 (47.1)	Raised LDH	2 (11.8)
Pancytopaenia	2 (11.8)	Abnormal chest X-ray	3 (17.6)
Raised ALT	3 (17.6)	Bilateral suprarenal enlargement	3 (17.6)

Basis of diagnosis

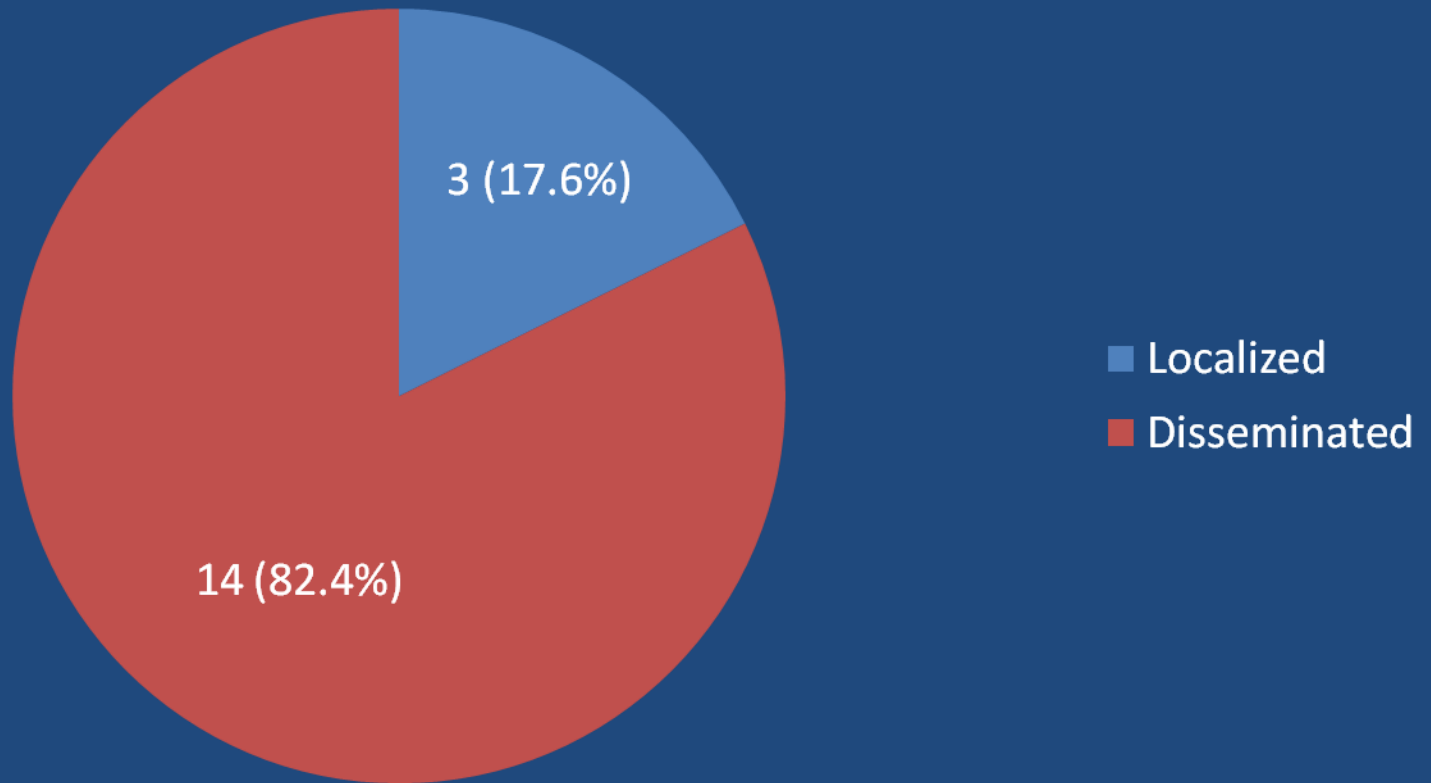
Basis of diagnosis



Basis of diagnosis



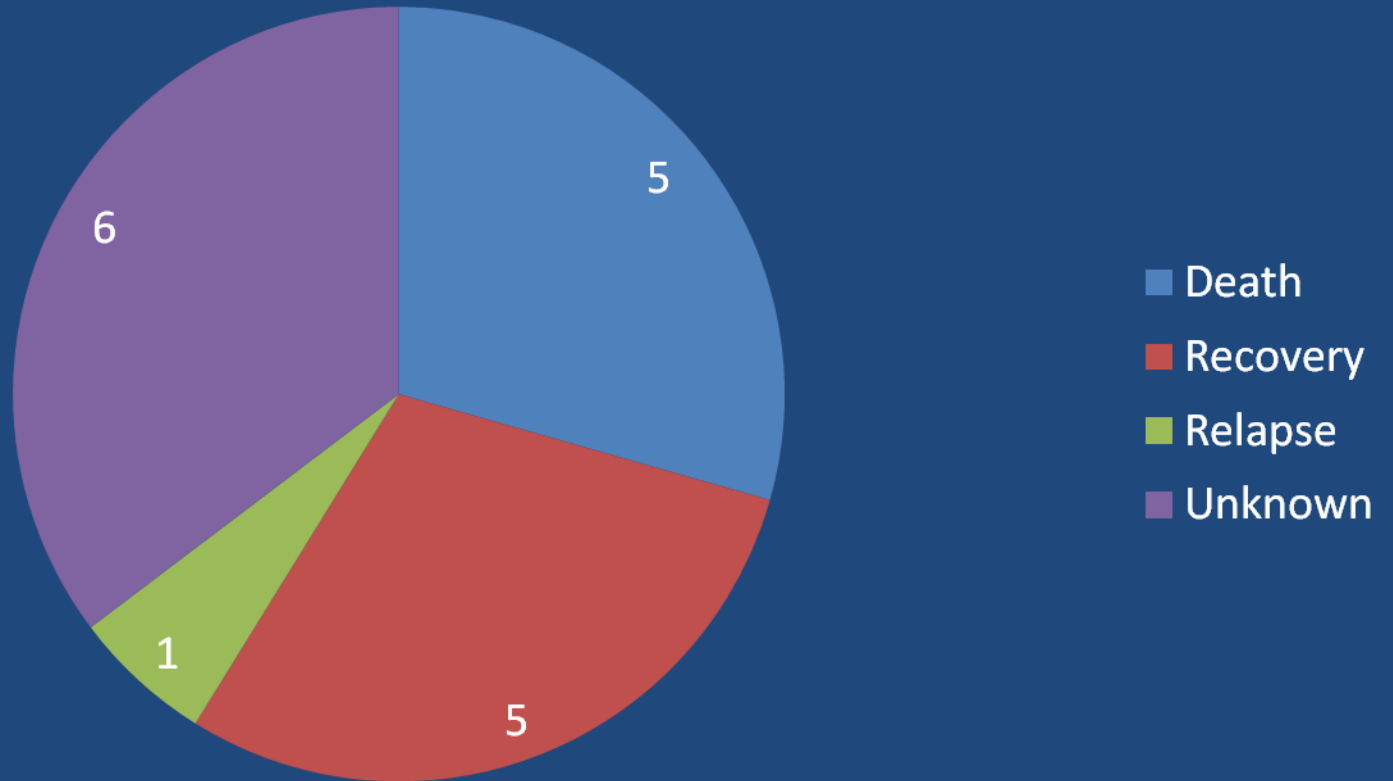
Form of histoplasmosis



Treatment

- Disseminated - amphotericin B and itraconazole
- Localized - itraconazole only
- ***Eight patients had anti-TB drugs***

Outcome



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Discussion

- Clinical features - same
- Disseminated forms and suprarenal - were common
- Diagnosed incidentally - histopathological or culture
- As observed in South-East Asian series
- Urinary antigen can not be detected here

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Conclusion

- Mildly/ (a)symptomatic, undiagnosed, under-reported
- ***Many patients are prescribed anti-TB drugs***
- ***Physicians should consider as differential***
- Further survey in high risk area (poultry) and population

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