

## ميكوفلورا الجزء العلوى من الجهاز التنفسى

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### الملخص العربى

أخذت مسحة من الجزء العلوى للجهاز التنفسى لعدد ٦٠ حمارا سليما اكلينيكيًا فى مدينة أسبوط لفحص الفطريات التى يمكن أن توجد بها وأسفر الفحص عن النتائج التالية :

١٠٪	١ - كانديدا البيكانس
٦٦٪	٢ - كانديدا بسيود وتروبيكالس
١٦٦٪	٣ - أسبرجيلس فلافس
١٠٪	٤ - جيوتريخم كانديدم
٣٣٪	٥ - كانديدا كروسيباى
٦٦٪	٦ - اسبرجيلس نيجر
١٣٣٪	٧ - بنسيلين ( أنواع )
٣٣٪	٨ - نوكارديا برازيلينس
٣٣٪	٩ - الليشريا بيودى

مكتبة الامام في زوايا وبيوت الخ

عدد ١٠٠٠ كتاب في ١٠٠٠٠٠٠٠

مكتبة الامام

مكتبة الامام في زوايا وبيوت الخ  
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## MYCOFLORA OF THE PHARYNGEO-TONSILLAR PORTION OF CLINICALLY HEALTHY DONKEYS IN ASSIUT

(With one table)

By

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### SUMMARY

Swabs were made for isolation of mycoflora of the pharyngo-tonsillar portion of 60 clinically healthy donkeys in Assiut. The percentage of mycoflora isolates were: *Candida albicans* 10, *Candida pseudotropicalis* 6.66, *Aspergillus flavus* 16.66, *Geotrichum candidum* 10, *Candida krusei* 3.33, *Aspergillus niger* 6.66, *Penicillin* sp. 13.33, *Nocardia brasiliensis* 3.33, and *Allescheria boydii* 3.33.

### INTRODUCTION

Some investigations were carried out on the mycoflora harbouring different regions of the respiratory tract of healthy and diseased animals. RADCHUK (1971) could isolate different mycotic cultures from lungs of healthy and diseased swine, the isolates were 195 belonged to *Aspergillus fumigatus*, 82 to *Mucor*, 146 to *Candida albicans*, 17 to *Actinomycosis*, 15 to *Fusarium*, 84 to *penicillin viride*. From infected lungs, *Aspergillus fumigatus* was isolated 12 times, *Aspergillus niger* 5, times, *Candida albicans* twice as often as from mycoflora of healthy lungs.

SHIGIDI (1973) could isolate different cultures of mycoflora from nasal swabs, lungs and bronchial lymph nodes of 64 apparently camels the isolate was *Aspergillus* 8.7%.

ALLER and ALLER (1974) isolated fungi from 53% of 135 sheep lungs free from lung worms, of 166 fungal isolates, 54% were *Aspergillus* sp. 28% *penicillin* sp. and 4% yeasts, there were 2 strains of *Candida albicans*. Moreover, BLAHA (1975) mentioned that III samples from lungs were positive for *Aspergillus* sp. from 660 samples and *Candida albicans* was found in 20 lung specimens from 617 autopsies.

NAKAHAVA (1975) could isolate from sputa of 341 patients with pulmonary tuberculosis *Candida* from 180 (52.8%), of these 180 *Candida* 119 were diagnosed as *Candida albicans*, *Aspergillus* from 10 (2.9%) and *Penicillin* m 5 (1.5%).

Concerning donkeys, there are no much investigations about the mycoflora isolates in healthy donkeys . The aim of the present work is to investigate mycoflora that may harbour the pharyngo- tonsillar portion of clinically healthy donkeys in Assiut .

### Materials and Methods

#### 1- Materials :

Sterilised swabs were used for obtaining samples from the pharyngo-tonsillar portion of 60 apparently healthy donkeys.

#### 2- Methods :

Swabs were directly streaked on Sabouraud's dextrose agar medium containing penicillin, streptomycin and chloramphenicol. Inoculated plates were incubated for 48 hours at 37°C, then left at room temperature (20-25°C) for another week before being examined .

The isolated fungi was identified according to their morphological appearance, as well as the microscopical criteria in the mycological literatures and also biochemically.

### Results

The following table shows the mycotic flora isolated from the pharyngo-tonsillar portion of 60 clinically healthy donkeys.

Mycoflora isolates	Number	Percentage
<i>Candida albicans</i> . . . . .	6	10
<i>Candida pseudotropicalis</i> . . . . .	4	6.66
<i>Candida krusei</i> . . . . .	2	3.33
<i>Aspergillus flavus</i> . . . . .	10	16.66
<i>Aspergillus niger</i> . . . . .	4	6.66
<i>Geotrichum candidum</i> . . . . .	6	10
<i>Penicillin spp.</i> . . . . .	8	13.33
<i>Nocardia brasiliensis</i> . . . . .	2	3.33
<i>Allesceria boydii</i> . . . . .	2	3.33

## Discussion

### *Candida albicans* :

RADCHUK (1971) isolated 146 cultures of *Candida albicans* from lungs of healthy swine, while ALLER and ALLER (1974) could isolate 2 strains of *candida albicans* from sheep lungs free from lung worms. Moreover, BLAHA (1975) isolated *Candida albicans* from 20 samples obtained from 617 lung autopsies.

However, NAKAHAVA (1975) isolated *candida* from 180 specimens (52.8%) of sputum of patients with tuberculosis.

In this work *Candida albicans* was isolated from sputa of clinically healthy donkeys in a percentage of 10. *Candida albicans* seems to form a part of the natural flora of human and animal digestive tract. Bronchial and pulmonary candidiasis are considered serious diseases and death occurs when two or more lobes are involved with a dense peneumonic process (SAUNDERS, 1948).

### *Aspergillus* :

Various species of *Aspergillus* were isolated by different authors, RADCHUK (1971), SHIGIDI (1973), ALLER and ALLER (1974). BLAHA (1975) and NAKAHAVA (1975). *Aspergillus flavus* and *Aspergillus niger* were isolated in this work in a percentage of 6 for the former and 2.4 for the latter.

Various species of *Aspergillus* are pathogenic to man, birds and various species of domestic animals. *Aspergillus* was found invading skin and various mucus membranes of horses, uterus and faetals and membranes (PLUM, 1932).

### *Geotrichum candidum* :

*Geotrichum candidum* was isolated in the present investgiation in a percentage of 10.

*Geotrichum candidum* is a saprophyte in soil and the enviroment of animals. In bronchi *Geotrichum candidum* causes a chronic bronchitis that produces characteristic sputum. In the lung the disease closely resembles tuberculosis. As the pulmonary disease progress, granulomatous lesions develop that heal with calcification, similarly to tuberculous lesions. (BURNET and SCHUSTER, 1973)

### *Penicillin* :

*Penicillin* species were also isolated in the present investigation in a percentage of 13.33. Different investigators could isolate *Penicillin* species, RADCHUK (1971), ALLER and ALLER (1974) and NAKAHAVA (1975).

*Penicillin* cause penicillosis that involves the skin, ears upper respiratory tract of lungs (pseudotuberculosis). A general infection resulting in foci in the internal organs may also develop (PYATKIN, 1967).

*Nocardia brasiliensis* :

There are no available literatures concerning the presence of this organism in normal animals, however, *Nocardia brasiliensis* was isolated from 2 donkeys.

The pathogenesis of this organism is not known, it is characterized by either a chronic granulomatous disease of the subcutaneous lymph gland and bones or by pseudotuberculous infection of lungs and pleura with haematogenous spread (PIER, WILLERS and MEILA, 1961)

*Allescheria boydii* :

*Allescheria boydii* was isolated in this investigation in a percentage of 3.33.

*Allescheria boydii* occurs in tissue as yellowish lobulated granules, as the disease progresses swelling and abscesses occur in the subcutaneous tissues and multiple fistulas develop that discharge serosanguineous fluid containing granules (BURNETT and SCHUSTER, 1973).

The above mentioned isolates may be of great value in diagnosing some of respiratory affections as bronchial and pulmonary *Candidiasis*, granulomatous lesions in lung tissue caused by *Geotrichum candidum*, pseudotuberculous infection of lungs caused by *Nocardia brasiliensis* and abscesses formation in the subcutaneous tissues caused by *Allescheria boydii*.

#### REFERENCES

- Aller, B., Aller, J.M. (1974). Presence of fungi in non parasitized sheep lungs. *Anales de la facultad de veterinaria de Leon* **10**, 55.
- Blaha, H. (1975). Some clinical problems in mycology, Aspergilli and Candida. *Mykosen* **18** (6) 235.
- Burnett and Schuster (1973). *Pathogenic Microbiology*. Saint Louis, the Mosby company. PP. 302.
- Merchant, I. and Packer, R. (1969). *Veterinary Bacteriology and Virology*. 8th ed. Iowa State College, Iowa, U.S.A.
- Nakahava, T. (1975). Experimental studies on mycotic infections. *Med. J. Kagoshima University, Japan*.
- Pier, A.C., Willers, E.H. and Meija, M.J. (1961). *Nocardia asteroides* as a primary infection of cattle. II. The experimental reproduction of the disease and the sources of Nocardial infection. *Amer. J. Vet. Res.* **22** 698.

- Pyatkin, K.** (1967). Microbiology. Mir publishers Moscow.
- Plum, N.** (1932). Various Kinds of fungi as a cause of sporadic cases of abortion in cattle. Acta Path. Microbiol. Scand. **9** 150.
- Radchuk, N.A.** (1971). Mycoflora of lungs of healthy swine and of swine with pneumonia. Sbornik. Rabot. Leningrad skii, Veterinaryi, Institute No. **32** 83.
- Saunders** (1948). Systemic fungus infections in animals, A review Cornell Vet. **38**, 213.
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