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In-Vitro Study on the Antifungal Activity of Various Potencies of Sepia Against Candida Albicans

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ABSTRACT
In this study, we have tested the ability of Sepia to limit the growth of a Candida culture. The current study's objective is to evaluate the effects of this drug on the fungus at various potencies. For almost two decades, homoeopaths have worked to establish the existence of the miraculous potential of little doses. The overall purpose of all of this research is to demonstrate, through in-vitro modifications, how Sepia acts on Candida fungus. The disc diffusion assay was used to evaluate the antifungal activity. Using a micropipette, a known volume of 10 µL of sepia of potency 200 C and 1M was loaded over small, circular, sterile paper discs (6mm in diameter) that had been impregnated in SDA plates. The plates were left at room temperature so that the sample could be absorbed into the medium before being incubated there for 24 to 48 hours. In order to assess the antifungal activity, the diameter of inhibition zone is measured. Itraconazole is used as positive control and ethanol as negative control.

KEYWORDS: Candida albicans, Sepia, Zone of inhibition, Kirby Bauer method.

INTRODUCTION:

An opportunistic pathogenic fungus called Candida albicans is responsible for up to 75% of all candidal infections in humans [1]. Candida albicans often thrive and live as commensals, but a small change in the host defence system can turn it into a pathogen. It is an opportunistic yeast infection [2]. Invasive candidiasis, vulvovaginal candidiasis, and oropharyngeal candidiasis are the three kinds of candidiasis. Invasive candidiasis, which has high rates of morbidity and mortality in hospitalised children, is a serious nosocomial infection[3]. As a result of the development of drug resistance in the Candida species, long-term antifungal treatment failures have risen in recent years. By altering the structure of the cell wall or membrane, the drug target molecule, or drug efflux mediated by ATP binding cassette, Candida is able to withstand the antifungal medications[4].Numerous studies were conducted to prove the efficacy of homoeopathic medicines in anti fungal actions. Homoeopathy has advanced considerably during the past few decades as a form of medicine. It is a medicine of the highest calibre. Sepia is a well indicated medicines for fungal infection as denoted in homoeopathic materia medica [5] .The homoeopathic medicines in various potencies are collected from standard manufacturers for this work.

AIM AND OBJECTIVES :

- To determine the zone of inhibition produced by Sepia in 200 C and 1 M on Candida albicans.
- To compare the effect of various potencies of Sepia against Candida albicans.

MATERIALS AND METHODS :

Study setting Microbiology Lab, Research Facilitation center, Sarada Krishna Homoeopathic Medical College, Kanniyakumari

Type of study: Experimental in vitro study.

Method of Collection of Data :

- Conducting the study or obtaining data by disc diffusion method or Kirby-bauer testing method.
- The drugs for conducting the study was Sepia in 200 C and 1 M potencies . These are divided into four groups
  - P- Homoeopathic Placebo
  - E- Positive control as antifungal medicine Itraconazole
  - S1 – Sepia 1M
  - S2 – Sepia 200 C .

METHOD OF ANTI FUNGAL ASSAY:

Candida albicans culture was purchased from MTCC, Chandigarh. The culture was suspended in Sabouraud Dextrose Agar broth and incubated for 72 hours. A fungal lawn was prepared by swabbing the inoculum evenly in an aseptic environment. The plates were then incubated for 48 hours to observe the zone of inhibition. The zone of inhibition was measured in millimeters and compared to the positive and negative control. If the medicine had antifungal activity, the fungus growth was inhibited in that plate. The plates were then compared to a positive and negative control.

OBSERVATION & RESULTS:

Sepia in 1M and 200 C potencies showed an antifungan activity towards Candida albicans ,the effectiveness of homoeopathic medicine is seen by observing the zone of inhibition around the disc which ranges from 6 mm to 8 mm for different potencies .

Figure 1 : Anti fungal activity of homoeopathic medicine and control by Kirby-Bauer method in Candida albicans .

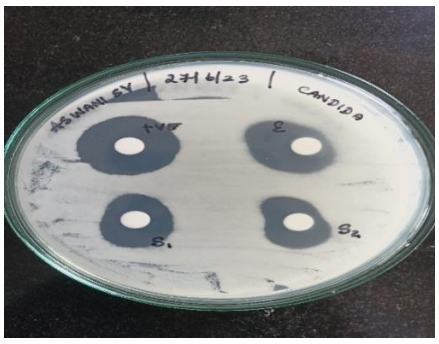

Table 1 : Antifungal activity of Itracolazole, Ethanol and Sepia

Fungal Strain	Medicine	Zone of inhibition
Candida albicans	Itraconazole (+ ve)	11mm

	Ethanol (E)	6 mm
	Sepia 1M (S1)	8mm
	Sepia 200 C (S2)	6 mm

DISCUSSION:

Homoeopathy is an integralist approach to disease, focusing on the primary cause being poisonous miasmatic forces that derange the vital force, leading to pathology and symptoms.This vitalistic-substantialistic approach helps understand the universe and medicine. Aphorism 81 by Hahnemann states that psora, an ancient infecting agent, is responsible for secondary disease manifestations. A study found Sepia's action against Candida albicans, proving that homoeopathy theory treats the whole body. This study supports questions about the authenticity and effectiveness of homoeopathic medicines, addressing sensational questions about their effectiveness.

CONCLUSION:

This anti fungal study results support the concept of the Evidence-Based Medicine, it represents that Homoeopathic medicine has specific inhibitory action against Candida albicans, the homoeopathic medicine Sepia 200C and 1M showed good antifungal activity with growth inhibitory action of 6 mm and 8 mm of inhibition zone and effective against Candida albicans to treat various diseases. The Itraconazole used as an antifungal drug against Candida albicans has also shown better result with zone of inhibition of 11 mm.

BIBLIOGRAPHY:

1. Singh A, Verma R, Murari A, Agrawal A. Oral candidiasis: An overview. Journal of oral and maxillofacial pathology: JOMFP. 2014 Sep;18(Suppl 1):S81.
2. Martins N, Ferreira IC, Barros L, Silva S, Henriques M. Candidiasis: predisposing factors, prevention, diagnosis and alternative treatment. Mycopathologia. 2014 Jun;177:223-40.
3. Dabas PS. An approach to etiology, diagnosis and management of different types of candidiasis. Journal of Yeast and Fungal Research. 2013 Aug 31;4(6):63-74.
4. Mishra N, Prasad T, Sharma N, Payasi A, Prasad R, Gupta D, Singh R. Pathogenicity and drug resistance in Candida albicans and other yeast species. Acta microbiologica et immunologica Hungarica. 2007 Sep 1;54(3):201-35.
5. Boericke W. New manual of homoeopathic materia medica and repertory. B. Jain Publishers; 2002.