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Short communication

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Stability of anti-microbial activity of Wisprec - a cross sectional study

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Abstract

Objective: To determine the stability of the anti-microbial activity of Wisprec. Materials and methods: Various batches of the anti-microbial cream Wisprec were tested against six microorganisms using agar dilution technique. Result: All the batches tested were stable with respect to their anti-microbial activity. Conclusion: The result suggests that the anti-microbial activity of Wisprec remains intact upto 3 years from the date of manufacture.

Key words: Anti-microbial activity, Wisprec, stability studies.

1. Introduction

Skin infection is a common manifestation among canines. Bacterial and fungal agents play a predominant role in infectious conditions. Important bacterial infections include pyoderma, impetigo etc. Bacterial infections are commonly caused by *S. aureus* [1]. Wisprec is a topical antiseptic developed by M/s. Natural Remedies Pvt. Ltd., Bangalore, India.

It is indicated in canines for various dermatological conditions, daily application of Wisprec after every milking is claimed to prevent mastitis in cattle and buffaloes. Wisprec is formulated using natural ingredients like *Ocimum sanctum* and *Cymbopogon citratus* which have been proven to be potent antimicrobials [2-8]. The present study is designed to evaluate the stability of the antimicrobial activity (*in-vitro*) of Wisprec by testing various samples which are 1 month to 3.5 years old.

2. Materials and methods

Test organisms: *S. aureus,* MTCC 737, *E. coli,* MTCC 1687, *P. aeruginosa,* MTCC 1688 and *K. pneumoniae* MTCC 109, *P. vulgaris* MTCC

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Table 1
MIC (mg/g) data of various Wisprec samples against test organisms.

Tested material	Wisprec Batch No.02 (6/98)	Wisprec Batch No.35 (2/99)	Wisprec Batch No.46 (2/00)	Wisprec Batch No.05 (5/01)	Wisprec Batch No.26 (11/01)	Acceptable limits of MIC
Tested organism						
S. aureus	50	25	25	25	12.5	12.5 - 25
E. coli	50	50	50	25	25	25 - 50
P. aeruginosa	50	50	50	25	25	25 - 50
K. pneumoniae	100	50	50	50	25	25 - 50
P. vulgaris	50	50	25	25	25	25 - 50
C. albicans	50	25	25	25	25	25 -50

Values in parenthesis refer to dates of manufacture.

1771 and *C. albicans* MTCC 183. The cultures were obtained from Institute of Microbial Technology, Chandigarh.

2.1 Preparation of the sample

Wisprec was homogenised in 3% Carboxy Methyl Cellulose (CMC) in aqueous base to obtain 40% Wisprec homogenate.

2.2 Assay of anti-bacterial activity

Agar dilution technique as per Mitscher (1972) [9] was adopted with slight modification, molten Soyabean casien digest agar and sample homogenate were mixed in aseptic conditions to obtain the following sample concentrations/g of media -200mg, 100mg, 50mg, 25mg, 12.5mg, 6.25mg and 3.125mg. Control plates were made as per the above procedure except that these plates contained CMC in place of sample homogenate. Triplicate plates were made for all dilutions including the controls.

The plates were allowed to set in the refrigerator for one hour. The plates were inoculated by streaking with saline suspension of test organisms equivalent to 10^8 cfu /ml. Separate quadrants were dedicated to each test organism. The plates were incubated at 37°C for 48 h. Following incubation, the plates were inspected for inhibition of growth in various dilutions. The results were recorded and minimal inhibitory concentration (MIC) was calculated.

2.3 Assay of anti-candidal activity

The procedure is same as described under assay of antibacterial activity, except that the media used was Sabouraud dextrose agar with Chloramphenicol and the incubation was at 25°C for 36 h.

3. Results and discussion

The result are presented in Table 1. All the batches exhibit acceptable MIC levels upto a period of 3 years. The MIC levels deviate from the standard limits after 3.5 years for *S. aureus* and K. *pneumoniae*. However, the samples have shown stability in MIC value for *E. coli, P. aeruginosa, C. albicans* and *P. vulgaris* even after 3.5 years. From these observations we can infer that the stability of anti-microbial activity of Wisprec is intact upto 3 years.

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