Résumé

A STUDY ON AN ANTIBIOTICS HIGH RESISTANT STRAIN OF *SHIGELLA SONNEI*

TAKATO YOSHIDA, MASUO HASHIMOTO, SATORU YOSHIZU & MASAO BENOKI
Department of Microbiology, Institute of Hygiene of Tokyo
SHOZO NAKASAWA, MASA HAMADA & AYAO YAMAMOTO
Institute of Infectious Deseases, University of Tokyo

One strain of *Shigella sonnei* isolated from a group of patients of dysentery which was outbreaked epidemically by the strain, showed to have acquired its high resistance against various drugs ; 310 mcg of streptomycin per cc or more, 310 mcg of tetracycline per cc or more, 620 mcg of chloramphenicol per cc or more, and 1,000 mcg of sulfisomezole per cc or more. No differences between the bacteriological characteristics of the resistant strain and those of the standard strain were found with respect to the growth curve, toxicity in mice, biochemical properties and attitude to phenol and cresol, whereas the electromicrographical findings showed to be larger in size and higher in heat resistance in the resistant strain than in the standard strain. Cross aggultinin absorption test indicated that rabbit antiserum prepared by the resistant strain could not be absorbed completely by the standard strain in the phase I and II. No resistance against kanamycin, colistin and polymyxin B were found in this strain.

STUDIES ON THE ANTIFUNGAL AGENT. I

Antibacterial and Antifungal Activity *in vitro* of Several Organic Compounds

SHUICHI ISHIDA, AKIRA MATSUDA, YOSHIO KAWAMURA & KUNIO YAMANAKA
Oji Pharmaceutical Plant Nippon Kayaku Co.

Several organic compounds such as acids, aldehydes and ketones were tested for the antibacterial and antifungal activity by agar plate streak method.

The results were obtained as follow.

1) Antibacterial and antifungal activity of tested compounds should be attributed to its structure of $>C=\underset{|}{C}-C=O$.

For example ; Benzylidenacetophenone, cinnamaldehyde and Jonon etc.

2) The similarity in structure between several tested compounds and the cinnamaldehyde, is found in the structural moiety of $>C=\underset{|}{C}-C=O$.

STUDIES ON THE ANTIFUNGAL AGENT. II

Antibacterial and Antifungal Activity of Cinnamaldehyde Derivatives

SHUICHI ISHIDA, AKIRA MATSUDA, YOSHIO KAWAMURA & KUNIO YAMANAKA
Oji Pharmaceutical Plant Nippon Kayaku Co.

In a previous paper, it was reported that some antifungal compounds have chemical structural similarity to cinnamaldehyde.

In this paper, experimental results on antifungal and other biological properties of cinnamaldehyde and its derivatives are reported.

1) Antifungal activity of cinnamaldehyde derivatives was developed by the co-existence of double bond and carbonyl radical in its chemical structure.

2) The haloganation of α-position carbon of the compound resulted in the great enhancement of antifungal activity of cinnamaldehyde.

3) Two cinnamaldehyde derivatives, α-bromocinnamaldehyde and P-nitro α-bromo-cinnamaldehyde, were examined for thier toxicity and their minimal lethal doses were nearly 1,000 mg/kg (subcutaneous injection) and about 2,000～3,000 mg/kg (oral administration).

4) Therapeutic treatment of α-bromo-cinnamaldehyde ointment (0.5% and 0.1%) was shown to be effective, for the experimental Trichophytia with *Trichophyton mentagrophytes.*