

Serotyping of *Streptococcus pyogenes* isolated from common and severe invasive infections in Japan, 1990-5: implication of the T3 serotype strain-expansion in TSLS

Y. INAGAKI¹, T. KONDA², S. MURAYAMA³, S. YAMAI⁴, A. MATSUSHIMA⁴, Y. GYOBU⁵, D. TANAKA⁵,
A. TAMURA⁶, C. KATSUKAWA⁶, A. KATAYAMA⁷, M. TOMITA⁷, Y. FUCHI⁸, K. HOASHI⁸
H. WATANABE^{1*} AND THE WORKING GROUP FOR GROUP A STREPTOCOCCI IN JAPAN

1 Department of Bacteriology, National Institute of Health, Shinjuku-ku, Tokyo, 162, Japan

2 Department of Bacterial and Blood Products Center For Biologics Control and Research, National Institute of Health, Musashimurayama-shi, Tokyo, 208, Japan

3 Department of Bacteriology, Yamagata Prefectural Institute of Public Health, Yamagata-shi, 990, Japan

4 Department of Bacteriology and Pathology, Kanagawa Prefectural Public Health Laboratory, Asahi-ku, Yokohama-shi, 241, Japan

5 Department of Bacteriology, Toyama Institute of Health, Koshugi-machi, Toyama Prefecture, 939-03, Japan

6 Department of Microbiology, Osaka Prefectural Institute of Public Health, Higashinari-ku, Osaka, 537, Japan

7 Department of Microbiology, Yamaguchi Prefectural Research Institute of Health, Yamaguchi-shi, Yamaguchi, 753, Japan

8 Department of Bacteriology, Oita Prefectural Institute of Health and Environment, Oita-shi, 870, Japan

(Accepted 19 February 1997)

To clarify the relationship between the epidemics of severe invasive group A streptococcal infections (streptococcal Toxic Shock-Like Syndrome; TSLS) and common group A streptococcal infections in Japan, we examined the T serotypes of *S. pyogenes* strains (group A streptococci) isolated from clinical specimens of the streptococcal infections (17999 cases) in the period 1990-5, including the severe infections (TSLS) (29 cases) in the period 1992-5. Characteristic points of the analyses were: (1) dominant serotypes of the infections in these periods were T12, T4, T1, T28 and TB3264, which were consistently isolated; (2) isolates of T3 rapidly increased

through 1990 to 1994 while T6 decreased in the period 1990-3; (3) when Japanese area was divided into three parts, T3 serotype tended to spread out from the northeastern to the south-western area; (4) strains of T3 and T1 serotypes were dominant in the TSLS. Dominant serotype strains of streptococcal infections did not always induce severe infections and dominance of T3 serotype in the TSLS seemed to be correlated with the increase of T3 in streptococcal infections. These results may indicate that certain clones of *S. pyogenes* are involved in the pathogenesis of the TSLS.