

# 肺炎球菌臨床分離株の培養2型肺胞上皮細胞 (A 549 cell) への付着・侵入能に関する検討

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*Streptococcus pneumoniae* (*S. pneumoniae*) は市中肺炎, 急性中耳炎, 髄膜炎, 敗血症の最も代表的な原因菌であり, 1980年代以降ペニシリン耐性肺炎球菌 (penicillin-resistant *S. pneumoniae*, PRSP) の分離率は世界的に増加している。しかしながら感受性株と耐性株の病原性にどのような違いがあるかについては良く知られていない。そこで今回, 感受性の異なる臨床分離血液由来 *S. pneumoniae* 4株のヒト肺胞2型上皮細胞癌由来である A 549細胞への付着, 侵入能について検討した。付着菌数はいずれの菌株でも接触時間, 接種菌量に依存して増加した。侵入能は検討4株中2株に認め, 接種菌量による差は認めなかった。今回検討した4株では, 薬剤感受性の違いによる付着・侵入能の差は認めなかった。また侵入能を有していた2株の血清型は3型と6型で, 臨床上血液から分離頻度の高い血清型であった。

## The Ability of Adherence and Penetration to A 549 Cells in Clinically Isolated *Streptococcus Pneumoniae*

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*Streptococcus pneumoniae* (*S. pneumoniae*) is the most common pathogen of community-acquired pneumonia, acute otitis media, meningitis, and bacteremia. In the last two decades, there has been a worldwide increase in the incidence rate of penicillin-resistant *S. pneumoniae* (PRSP). The difference of pathogenicity between penicillin-susceptible *S. pneumoniae* (PSSP) and PRSP, however, is not well known. In the present study, the ability of adherence and penetration to A 549 cells, a human lung alveolar carcinoma (type 2 pneumocyte) cell in the 4 strains of *S. pneumoniae* clinically isolated from blood were examined in vitro. The ability of adherence depended on the contact time and inoculum size in all strains. Results showed that two of the four strains (one is susceptible and the other is intermediately resistant to penicillin) were found to penetrate into A 549 cells, but were not dependent on inoculum size. The ability of adherence and penetration in the 4 strains was not related to their susceptibility to penicillin. The serotypes of invasive strains were 3 and 6, and were frequently isolated from blood in Japan. These results confirm previous clinical study. (Accepted on October 21, 2000) *Kawasaki Igakkaishi* 27(1):23-30, 2001

**Key Words** ① Penicillin-resistant *Streptococcus Pneumoniae*  
② Epithelial cells ③ Penetration ④ Serotype













