Use of Streptococcus salivarius K12 in the prevention of streptococcal and viral pharyngotonsillitis



Background:

Streptococcus salivarius K12 (BLIS K12) is a probiotic strain producing the bacteriocins salivaricin A2 and salivaricin B, both of which strongly antagonize the growth of Streptococcus pyogenes, the most important bacterial cause of pharyngeal infections in humans. It successfully colonizes and exhibits persistence in the oral cavity and is endowed with an excellent safety profile. Previous observations of a small group of children indicated that the use of BLIS K12 could also reduce the occurrence of viral pharyngitis. The present study focused on a further evaluation of the role of BLIS K12 in the control of pediatric streptococcal disease and moreover whether its use could also help provide protection against various nonstreptococcal infections.

Methods:

In total, 48 children with a recent history of recurrent pharyngeal streptococcal disease were enrolled in the treated group. The control group comprised 76 children known to have had a very low recent occurrence of oral streptococcal disease. The treated children were given BLIS K12 daily for 90 days. The number of episodes of streptococcal pharyngotonsillitis, tracheitis, viral pharyngitis, rhinitis, flu, laryngitis, acute otitis media, enteritis, and stomatitis was recorded during probiotic treatment and for a follow-up period of 9 months, and this was compared with the episodes of the control group over the corresponding period.

Results:

Compared with the pretreatment time period, 2013, a 90% reduction of streptococcal pharyngeal disease was observed in 2014; compared with untreated children, a statistically significant reduction of all of the other disease conditions assessed, other than stomatitis, was detected in the probiotic-treated children.

Conclusion:

In agreement with previous findings in the present study, it was found that the daily use of BLIS K12 has been associated with a concurrent and persisting reduction in the occurrence of pharyngeal, recurrent, streptococcal disease. Moreover, the benefits to children may also extend to a reduction of non streptococcal diseases, including tracheitis, viral pharyn-gitis, rhinitis, flu, laryngitis, acute otitis media, and enteritis.