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IDENTIFICATION OF HTRA GENE AND IMMUNORECTIVITY ANALYSIS OF HTRA PROTEIN IN β -HEMOLYTIC STREPTOCOCCI

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Objectives To investigate whether HtrA homologous genes were present in the 44 BHS isolates from children with acute throat infection or tonsillitis in Guangzhou recently and analyse the immunorectivity of HtrA protein.

Methods Htra genes were amplified by PCR and identified by sequencing. Then the htra gene from GAS was cloned into pGEX4T-1 vector and HtrA protein was expressed in *E.coli* BL21. The recombinant HtrA protein was identified by Western blot with anti-GST rabbit mAb and its immunorectivity was analysed by Western blot with the sera from mice infected with BHS.

Results All of the 44 BHS isolates harboured the HtrA genes which were 99% identical with the gene of GAS. Western blot confirmed that both anti-GST rabbit mAb and the sera from mice infected with GAS could react specifically with the recombinant HtrA protein, while the sera from other group couldn't.

Conclusions All of the BHS isolates contain HtrA gene which is the same as the known GAS gene and is different from the known GBS and GCS gene. GAS infection is able to induce antibody against HtrA protein. This indicates that HtrA protein acts as a dominant immunogen in GAS, while the immunorectivity of HtrA proteins from other groups of streptococci is still unknown.