A Novel Anti-HPV Biological Dressing Capable of Preventing Cervical Cancer Was Developed

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Cervical cancer is one of the biggest threats to women’s health, with about 80% of global cervical cancer occurring in developing countries. Therefore, the development of effective and safe biological agents to prevent cervical cancer has always been an urgent need calling for efforts from scientists worldwide.

More than 90% of cervical cancer is caused by persistent infection of high-risk human papillomavirus (HPV). The induction of cervical cancer will be effectively prevented if infection or consistent infection of HPV is blocked. HPV prophylactic vaccines have already been licensed in some countries. But the limitations including high cost, large number of HPV subtypes and incapability to reverse the established HPV persistent infection make it of great importance to find a specific antiviral therapy to prevent cervical cancer.

Recently, Professor Shibo Jiang, from School of Basic Medical Sciences, Fudan University, as a leader of a research group incorporating eight Chinese research institutes and hospitals, conducted a clinical trial of an anti-HPV biological dressing JB01 to treat high-risk HPV infection, which was online published on Microbes and Infection on November 7th. This work argues for the first time that anti-HPV biological dressing JB01 is clinically effective, since about 60.5% of HPV-positive women in JB01-treatment group became HPV-negative compared with 13.5% in the non-treatment group. After administered intravaginally, JB01 also managed to reduce the HPV-DNA viral load. In this report, the mean HPV-DNA load in patients receiving JB01 treatment dropped from 19.8 RLU/CO to 0.76 RLU/CO, while this value in the non-treatment group increased from 13.16 RLU/CO to 22.25 RLU/CO.
The development of JB01 is a great breakthrough for China’s anti-HPV research, and exerts a critical role in the development of medicine which can both block HPV persistent infection and prevent cervical cancer genesis.

In the previous studies, Professors Shibo Jiang and Lu Lu have shown that the JB01 protein has a strong inhibitory activity against HPV infection. In this cooperation with Shanxi Jinbo Pharmaceutical Co. Ltd., they succeeded in formulating JB01 into anti-HPV biological dressing and demonstrating its anti-HPV nature in patients.

Efficacy and safety are the two necessary criteria for drug candidates. Accompanied with the clinical trial on the efficacy of this anti-HPV biological dressing JB01, Jiang’s team proceeded with its safety evaluation, when vaginally applied in 38 women infected by high-risk HPV. This work was published on Journal of Medical Virology early this month. Notably, no serious adverse events were observed in these patients, and the damaged vaginal microenvironment was also switched back to normal, certifying the safety of JB01 vaginally used in HPV-infected women.

These series of work suggest the potential application of JB01 for the treatment of HPV infection and cervical cancer in clinical.

References