News & Comments

A Breakthrough in the Diagnosis and Treatment of Cervical Cancer

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One of the most prevalent gynaecological malignancies with a significant threat is Cervical Cancer (CC). Due to the lack of any early clinical indications, the CC is simple to overlook.

However, the tumour will manifest clear symptoms as it grows and compresses surrounding organs and tissues. The most important risk factor for CC at this time is thought to be Human Papillomavirus (HPV) infection, which has an infection rate of 26.8% in women over the age of. One of them, miR-587, is a recently identified micRNA family member that initially caught the public's attention since it was found to be implicated in the development and progression of colorectal cancer. It was later established that it displayed a clear aberrant expression throughout the HPV infection process.

The study's objective was to investigate the relationship between miR-587 and CC with the hope of establishing the groundwork for future studies and offering fresh perspectives on how to treat CC clinically in the future.

The informed consent form was self-signed by each participant.

Age >18, clinical CC signs matching CC diagnosis by pathological biopsy, proven persistent infection of high-risk HPV, full case data, and pathological stage I–II CC were included in the research group. Total RNA from Invitrogen Trizol was reverse transcribed into cDNA and then amplified by PCR under reaction conditions. The Trans well chamber's upper chamber was infused with the transfected cells, while the bottom one was filled with culture media containing 10% FBS. The lysed cells were placed in a buffer solution and cooked for 10 minutes in water that was already boiling. Mean-Standard Deviation (c-s) was used to record quantitative data, and percentages were used to express categorical data.

Western blot was used to find BCL2A1 protein expression in CC cells. In comparison to the NC-BCL2A1 group, the si-BCL2A1 group's cells migrated farther. The findings indicated that miR-587 was abnormally highly expressed in CC, which concurred with the earlier research and could validate our experimental findings. The results also showed greater levels in CC patients than in HPV-infected individuals. MiR-587 has been linked to HPV infection in numerous studies. There must be a possible link between miR-587 and CC, as HPV is one of the most important risk factors for the disease. Additionally, we established the importance of miR-587 in clinical identification in the HPV-infected community by confirming using ROC analysis that it has a strong prediction effect for the presence of

CC in this population.

Study discovered that the inhibition of BCL2A1 reversed the effects of miR-587 suppression on CC cells in the rescue test, demonstrating that miR-587 contributed to the formation and development of CC via targeting BCL2A1.

In addition, it can speed up CC cell multiplication, invasion, and migration via targeted inhibition of BCL2A1, which may be a breakthrough in CC diagnosis and treatment in the future. The miR-587, which is highly expressed in CC, has a good predictive value for the occurrence of CC in HPV-infected populations.

JOURNAL REFERENCE

Ti, A., R. Chen and M. Chen, 2022. Prediction value and mechanism of miR-587 for cervical cancer in HPV infected population. Int. J. Pharmacol., 18: 897-905.

KEYWORDS

Cervical cancer, miR-587, BCL2A1, invasion, migration, DLR assay, HPV