OVEREXPRESSION OF MEL-18 ENHANCES UTERINE SMOOTH MUSCLE TUMORS OF UNCERTAIN VAGINAL CANCER WITH UTERINE PROLAPSE: A RARE ENTITY

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Objectives To detect the expression of Melanoma protein 18 (Mel-18) in endometrial carcinoma (EC) and evaluate the biological effects of Mel-18 on the proliferation, immigration and cell cycle of EC cells.

Methods Immunohistochemistry (IHC), Western blotting and RT-qPCR assays were used to examine the expression of Mel-18 in EC. Adenovirus and siRNA were used to regulate Mel-18 and migration capacity (P < 0.05). The Mel-18 mRNA and protein expression were both significantly increased by transducted with adenovirus encoding Mel-18 cDNA (P < 0.05). Meanwhile, The Mel-18 protein and mRNA levels were significantly reduced by transfected with siRNA-Mel-18 (P < 0.05). Up-regulation of Mel-18 was significantly promoted the cell viability, clonality and migration capacity (P < 0.05). The percentage of cells at S + G2/M phase was significantly increased in Mel-18-over-expressing cells (P < 0.05). We also explored the potential mechanism of Mel-18 in EC cell lines. Overexpression of Mel-18 activated the PI3K/AKT/mTOR pathway, the expression of PI3K p85α, p-AKT, p-mTOR, c-myc, cyclin D1 and bcl-2 proteins were significantly increased, but bax protein was decreased.

Conclusions Mel-18 was highly expressed in EC and promoted cell proliferation, migration and positively regulated cell cycle progression via PI3K/AKT/mTOR pathway.