Evaluation of Proliferation and Migration of T98G and U87MG Cells Under EGF Stimulus

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Glioblastoma multiforme (GBM) is the most aggressive brain tumor. It may develop *de novo* (primary GBM) or progressively from low grade astrocytoma (secondary GBM). EGFR gene mutation is the most common feature in glioma and it has implication in cellular proliferation, migration, and metastasis. In order to evaluate the response of EGFR, proliferation and cell migration was measured in T98G and U87MG cells, stimulated by EGF vs. control. The results of proliferation assays showed little difference, which was not statistically significant and we conclude that proliferation in these cells was not affected by EGF stimulation. Cell migration was measured by wound healing assay in a defined field area 12h and 24h post-scratch: Control-T98G vs. EGF-T98G migration rate was in 12h, 5.0 ± 2.6 vs. 16 ± 4.3 cells/field and in 24h 16 ± 8.5 vs. 38 ± 4.5 cells/field. T98G migrates 3 times faster than control. Control-U87MG vs. EGF-U87MG migration rate was in 12h 5.6 ± 3.7 vs. 11.6 ± 7.2 cells/field and in 24h; 29.0 ± 10.3 vs. 29.3 ± 7.7 cells/field. U87MG cells migrate 2 times faster in 12h, but no difference was found in 24h. These preliminaries results indicated that T98G is more responsive to EGF stimulation than U87MG for cell migration and that there was not difference in cell proliferation. To gain insights into the potential mechanisms by which EGF may interfere in the dynamics of cytoskeleton to provoke cell migration, phosphoproteome of these cells is underway.

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