

البحث الخامس

العنوان:

Assessment of the Therapeutic Potential of Epigallocatechin Gallate and/or Metformin on Oral Squamous Cell Carcinoma

مكان و تاريخ النشر:

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Abstract:

OBJECTIVE: Squamous cell carcinoma is a prevalent tumor in the head and neck region. Current treatments have low survival rates. Therefore, physicians are seeking alternative therapies. This work compared the effects of Epigallocatechin-3-gallate (EGCG), metformin and a combination of both on oral squamous cell carcinoma. **METHODS:** This study was performed on human epithelial type 2 (Hep2) cells. Cell viability was estimated by MTT assay. Gene expression of platelet-derived growth factor, interleukin 6, caspase 3 and survivin was evaluated by a real-time polymerase chain reaction. Reactive oxygen species (ROS) and vascular endothelial growth factor were assessed by ELISA. **RESULTS:** Results showed that cells treated with metformin showed a notable rise in caspase 3 and a significant decrease in all parameters. EGCG had an insignificant change in all parameters tested except a significant decrease in ROS. A combination of both showed a remarkable elevation in caspase 3 and a more pronounced decrease in all parameters.

CONCLUSION: It was concluded that EGCG exhibited a synergistic anti-proliferative, anti-angiogenic, pro-apoptotic and antioxidant activity on the Hep2 cell line when combined with metformin.