Cancer stem cells as new targets for tumor treatment

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Cancer stem cells (CSCs) are a small population of tumorigenic cancer cells which are considered as beginners for cancers. We conducted a systematic review article by surfing the PubMed and Scopus data bases, and found 16 articles from 2000 to 2017. Few articles are published about CSCs in oral squamous cell carcinoma, but similar to other tumors, these cells are able to self-renew and differentiate by cell division. Studies showed that they play role in metastasis, therapies resistance and recurrences through expression of different markers. Rapid tumor growth and weak prognosis have been related to the presence of CSCs. Helen H. Yu et al. noted three subpopulations in SCC. One CSC group exists in the tumor nests, the second group in the stroma between tumoral nests, and the third group in the endothelium of stromal vessels. Some studies focused on the mediators and cytokines produced by CSCs. Kelsey A. et al. showed that IL-6 is secreted by the third subpopulation named above, and induces the effect of Cisplatin, therefore increases the tumorigenic potential of head and neck CSCs. Moreover high serum levels of this cytokine have been correlated with patient's poor survival. It is assumed that discovering the characteristics of CSCs in tumors would be a goal for better, more precise and targeted cancer treatments.

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