



The properties of cancer stem cells in tumor recurrence and metastasis in colorectal cancer

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Abstract

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Introduction: Cancer stem cells (CSCs) are subpopulation of tumor cells that cause relapse and metastasis by giving rise to new tumors. Thus it is important to know the mechanisms that regulate self-renewal and differentiation of CSCs. Also it has been demonstrated that CSCs are the cause of chemotherapy resistance. So the study of the properties of stem cells could be a new window of opportunity to increase survival in patients and create more effective treatments in the future. The aim of this report is to summarize studies of CSCs and tumor metastasis at the cellular level, with obtain of new insights into understanding the role of CSCs in tumor recurrence and metastasis in colorectal cancer.

Method: the search was done in electronic databases using the following keywords: cancer stem cells, tumor recurrence and tumor metastasis. In this review, we consider the properties of CSCs which play a role in malignant proliferation, invasion, metastasis, and tumor recurrence.

Conclusion: The CSC theory has emerged as an attractive hypothesis for tumor development and progression. It known that CSC or tumor initiating cell is a major factor in therapy-resistance and cancer recurrence. CSCs are involved in tumor metastasis, however, the details of relationship of CSCs, angiogenesis, and tumor



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metastasis is still ambiguous. The ability to isolate and characterize these cells has led on the one hand to new drugs that target CSCs and on the other, to the realization that some drugs already in hand owe their efficacy to their effect on CSCs.

Keywords: cancer stem cells, tumor recurrence, tumor metastasis and colorectal cancer