

Current Concepts of Tumour Metastasis

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Abstract

Background: Tumour metastasis remains the principal cause of treatment failure and poor prognosis in patients with cancer. Recent advances in our understanding of the biology of metastasis are providing novel potential targets for anti-cancer therapies. **Aim:** This paper reviews the current concepts in tumour metastasis. **Methods:** A review of Medline publications relating to the molecular biology and therapy of human tumour metastasis was conducted. **Results and Discussion:** Early metastasis models were based upon the premise of uninterrupted tumour growth, with the inevitable formation of distant metastases and eventual death of the patient. However, current research suggests that metastasis is an inefficient process governed by several rate-limiting steps, and that failure to negotiate these steps can lead to tumour dormancy. Successful metastatic tumour growth depends upon appropriate tumour-host microenvironment interactions and, ultimately, the development of vascularised metastases post-extravasation in the target organ. An understanding of the molecular mechanisms involved in this dynamic process will aid in the identification of therapeutic targets that may allow earlier diagnosis and more specific therapies for patients with metastasis.

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