The interplay between microRNAs and cellular components of tumour microenvironment (TME) on non-small-cell lung cancer (NSCLC) progression

ABSTRACT

Cellular components of the tumour microenvironment (TME) are recognized to regulate the hallmarks of cancers including tumour proliferation, angiogenesis, invasion, and metastasis, as well as chemotherapeutic resistance. The linkage between miRNA, TME, and the development of the hallmarks of cancer makes miRNA-mediated regulation of TME a potential therapeutic strategy to complement current cancer therapies. Despite significant advances in cancer therapy, lung cancer remains the deadliest form of cancer among males in the world and has overtaken breast cancer as the most fatal cancer among females in more developed countries. Therefore, there is an urgent need to develop more effective treatments for NSCLC, which is the most common type of lung cancer. Hence, this review will focus on current literature pertaining to antitumour or protumourigenic effects elicited by nonmalignant stromal cells of TME in NSCLC through miRNA regulation as well as current status and future prospects of miRNAs as therapeutic agents or targets to regulate TME in NSCLC.