

Review of: "The tumour microenvironment in BRCA1/BRCA2 hereditary breast cancer and the role of epigenetics in its regulation"

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Potential competing interests: No potential competing interests to declare.

This article explores the relationship between BRCA1/BRCA2 hereditary breast cancer and the tumour microenvironment, as well as the role of epigenetics in its regulation. BRCA1/BRCA2 pathogenic variants (PVs) are inherited genes that greatly increase the risk of breast cancer and tend to be more aggressive with poorer prognoses. The article discusses how BRCA1 PVs influence the tumour microenvironment by promoting epithelial-mesenchymal transition, angiogenesis, and influencing oestrogen levels. In addition, BRCA1 PVs also contribute to breast cancer by exerting epigenetic effects on cells, such as DNA methylation and histone acetylation, suppressing the expression of proto-oncogenes and promoting cytokine dysregulation. The article also explores lysine-specific demethylase 1 (LSD-1) as a master epigenetic regulator of both transcription repression and activation and its role in the suppression of BRCA1 gene expression. The article concludes that LSD1 inhibitors could be a potential mode of therapy in the management of breast cancer, particularly for BRCA1/2 PV carriers.