Hypoxia correlates with increased risk of pancreatic cancer growth and metastasis.

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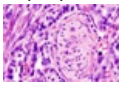

As tumors grow, they often develop oxygen-poor areas within their centers. These areas, called hypoxic regions, pose a formidable obstacle to cancer treatment. Not only is it difficult to deliver drugs to these sites; the presence of hypoxia often correlates with a greater risk of aggressive tumor growth and metastasis. It is hypothesized that tumors metastasize when their primary location no longer serves as an adequate environment, and hypoxia may function as a form of environmental stress. Consequently, metastasis may be a means of moving to more hospitable regions of the body.

When researchers at Princess Margaret Hospital in Toronto analyzed the genes expressed by cells in hypoxic regions of pancreatic tumors growing in mice, they found increased expression of genes linked to cell survival and growth. The results indicate that hypoxic regions appear to contribute to both primary cancer growth and an increased chance of cancer spread.

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