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The Effects of Tyrosine Kinase Inhibitors in Pancreatic Cancer

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In this study, we investigated the potential use of two tyrosine kinase inhibitors (STI571 and ZD1839) in the treatment of pancreatic cancer. Our study demonstrated that both compounds inhibit pancreatic cancer cell growth in a dose dependent manner. STI571 mediates its inhibitory activity probably unspecifically in vitro. The STI571 in vivo function needs further elucidation since its receptors PDGFR and c-kit are overexpressed in pancreatic cancer patients. ZD1839 can inhibit pancreatic cancer cell growth by specifically abrogate EGF signaling pathway. It also proved to be effective to inhibit pancreatic cancer cell invasion and colony formation in vitro, which is the hallmark of metastasis. We conclude that, tyrosine kinase inhibitors, like STI571 and ZD1839, are beginning to be applied in clinical practice, and should lead to the improvement in the therapeutic strategies and subquently result in a better prognosis of pancreatic cancer patients.