A Non-Invasive and Novel Method for the Early Detection of Pancreatic Cancer

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With just 5% survival rates, pancreatic cancer continues to be one of the deadliest cancers in the world. Studies have discovered that an increase in polyamine concentration in biofluids correlates with increased cell proliferation and tumorigenesis. In Carcinomas like that of the pancreas, significant up-regulation of the spermine concentration in human saliva can be indicated as a marker for pancreatic cancer. My aim was to design a strip-based assay to use spermine, a polyamine in human saliva, to effectively determine whether an individual has pancreatic cancer. Because of the presence of 40nm carboxyl gold conjugate, I was able to single out specify a spermine concentrate from other polyamines in saliva, when the target spermine present in the saliva binds with anti-spermine gold-conjugated antibody & is detected at the test line. After the test has been conducted, the intensity of the color change would be measured through a mobile application which would effectively identify the test results & if positive, classify in which stage of cancer the tumor most likely is in.