

Engineer builds robot based on crab to remove stomach cancers

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(PhysOrg.com) -- In a bit of science that has a genuine wow factor, doctors and a mechanical engineer from Singapore's National University Hospital and Nanyang Technological Institute have teamed together to build a small remotely controlled robot that can be fed down a patient's throat and into the gut to remove cancerous tumors. Enterologist Lawrence Ho and engineer Louis Phee designed and built the robot after having lunch with renowned surgeon Sydney Chung (he was on the front lines of the SARS epidemic) who suggested that perhaps such a robot could be made that would mimic the crab they were eating, allowing surgeons to remove tumors from cancer patients without having to resort to cutting them open.

The result is a very small robot that has a pincer to grab onto cancerous tissue to hold it still while a short hook cuts it away. It can also deliver a coagulant to stop the bleeding that results and a camera so that the surgeon can see what's going on inside the patient. The robot is first placed in the mouth, then is fed down through the esophagus and into the stomach or beyond if necessary. Once there, its actions are controlled remotely by a surgeon.

According to Ho, the robot has two advantages over conventional methods. The first is that it's far less invasive which means less pain, recuperation time and a reduced possibility of infection. The second is that the robot is much steadier than the human hand, which means less non-cancerous tissue is removed and fewer mistakes are made.

Stomach and gastric cancers in general are the second leading cause of death from cancer worldwide, and are, for unknown reasons, more common in Asia. In addition, because the symptoms of such cancers don't generally arise till the cancer has reached its later stages, treatment is often difficult and ineffective. Such cancers are usually treated by removing them surgically, then following up with radiation and/or chemotherapy, both of which are likely to be more effective if the patient isn't also recuperating from an invasive surgical procedure.

Ho and Phee have formed a company together and after more testing and fine tuning, expect to bring the [robot](#) to market sometime in the next few years.

More information:
via [Reuters](#)

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