Universal cancer marker shows new treatment options

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A single screening method that can force a wide range of cancers to reveal themselves has been discovered. The universal cancer marker could help doctors find and treat tumours, and provide surgeons with a "dotted line" to cut them out.

The key to the technique is the receptor for follicle-stimulating hormone (FSH). This receptor – typically involved in controlling women's reproductive cycles – appears in unusually large amounts in prostate tumours. So Aurelian Radu at Mount Sinai School of Medicine in New York and colleagues looked for it in 1336 human tumour samples, including prostate, breast, lung and liver cancers.

The group applied colour-labelled antibodies for the FSH receptor to the samples. They found that in every sample, the antibodies bound to blood vessels around the periphery of the tumour.

Radu doesn't yet know why tumour blood vessels express the receptor, though he thinks it might play a role in the formation of new vessels.

One-stop screening

The marker could be useful in pinpointing and treating tumours, says Radu. Currently, different imaging techniques are used to identify different types of tumour. "Using this marker, we can use one imaging technique for the whole body," says Radu. He hopes broader screening will enable earlier detection of secondary tumours.

Kairbaan Hodivala-Dilke at Barts and The London School of Medicine and Dentistry's Institute of Cancer agrees: "It's certainly a good marker, and could be especially useful in surgery, which is a bit hit-and-miss at the moment," she says. Using colour-labelled antibodies to highlight the edges of a tumour could enable surgeons to "cut along the dotted line".

Additionally, by attaching a cancer drug to an FSH receptor antibody, "we have the potential to target therapy exclusively to the tumour", says Radu.

Drugs that inhibit the FSH receptor are already in development as potential contraceptives, says Radu. He hopes that some might be trialled as anti-cancer drugs in the future.