Take a bow-wow: dogs fight bowel cancer

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Japanese researchers on Monday reported a "lab" breakthrough: a retriever which can scent bowel cancer in breath and stool samples as accurately as hi-tech diagnostic tools.

The findings support hopes for an "electronic nose" one day that can sniff a tumour at its earliest stages, they said.

Researchers led by Hideto Sonoda at Kyushu University in Fukuoka, Japan, used the specially-trained female black labrador to carry out 74 "sniff tests" over a period of several months.

Each of the tests comprised five breath or stool samples, only one of which was cancerous.

The samples came from 48 people with confirmed bowel cancer at various stages of the disease and 258 volunteers with no bowel cancer or who had had cancer in the past.

They complicated the task for the eight-year-old canine detective by adding a few challenges to the samples.

Around half of the non-cancer samples came from people with bowel polyps, which are benign but are also a possible precursor of bowel cancer.

Six percent of the breath samples, and 10 percent of the stool samples, came from people with other gut problems, such as inflammatory bowel

disease, ulcers, diverticulitis, and appendicitis.

The retriever performed as well as a colonoscopy, a technique in which a fibre-optic tube with a camera on the end is inserted into the rectum to look for suspect areas of the intestine.

It correctly spotted which samples were cancerous and which were not in 33 out of 36 breath tests, equal to 95 percent accuracy, and in 37 out of 38 stool tests (98 percent accuracy).

It performed especially well among people with early stage disease, and its skills were not disrupted by samples from people with other types of gut problems.

Previous research has also found that dogs can sniff out bladder, lung, ovarian and breast cancer.

Using dogs as a screening tool is likely to be expensive.

But the success of this experiment backs hopes for developing a sensor that can detect specific compounds, in faecal material or the air, that are linked to cancer.

There is already a non-invasive method for screening for bowel cancer, which looks for telltale traces of blood in a stool sample. But it is only about 10 percent accurate in detecting early-stage disease.

The dog used in the Japanese experiment was initially trained for water rescue in 2003 and then began training as a cancer detector in 2005.

Every time she correctly distinguished a cancer sample, she was allowed to play with a tennis ball.

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