18 January 2018 has seen the announcement from the John Hopkins Cancer Centre that researchers there have developed CancerSeek; a screening test for 8 common cancers that can be achieved through a single blood test. Whilst not the first universal cancer blood test to have been trialled, this is the first published trial which also attempts to narrow down the form of cancer from the same sample.

Getting to cancers early is one of the most trying areas in cancer research and treatment and this new test is heralded therefore as a breakthrough for early detection, particularly in those cancers which typically have few early signs, such as pancreatic cancer.

The cancers that can be sought out by the treatment are ovarian, liver, stomach, pancreatic, oesophagus, colorectal, lung and breast cancers – five of which, currently have no cancer screening tests available and each with varying levels of success for detection.

There are downsides, of course, both practical and ethical. Practical concerns are the potential for a false positive, but it is encouraging that in the 812 healthy controls that were used, only 7 false-positive results were found.

There are limitations in just how early these cancers can be detected – the test actually picked up only 43% of very early stage 1 cancers, representative of smaller tumours which may shed less DNA.

False positives provide a further difficulty, such as in those people with inflammatory conditions, such as arthritis, are in a category who could see a false positive produced on account of the proteins used by the test reflecting the tissue damage seen in those conditions. Those patients could see themselves facing unnecessary and worrying invasive follow up tests and investigations in order to confirm or deny the screening test.
The mind-set behind the early detection would mean that surgery could eradicate those cancers that are curable by surgery and in those cancers where surgery does not cure, would give a better treatment pathway. But, there must be one eye on the fact that early identification of the cancer may lead to surgery, sometimes fairly drastic surgery, where otherwise perhaps, in the case of a slow growing cancer, the patient may well have lived with that cancer and had it monitored, without the need or risk of complex procedures.

Of course, the test does not pick up every cancer and a yearly, or otherwise, blood test could not give peace of mind that there was no cancer at all present would not reduce the need to be proactive in identifying signs and symptoms and to investigate them where necessary. But it could represent an important safety net in excluding cancer where other signs and symptoms may be present, giving healthcare professionals better confidence and certainty in diagnosis.

The impact on the NHS is something to be considered; whilst of course, it is anticipated that the early detection of cancers leads to better outcomes, there is the cost and logistical infrastructure to provide these screening tests – there would be no benefit in irregular testing, with long repeat times because, of course, that would negate the impact of early detection in people with little or no symptoms.

The burden on the NHS therefore can’t be underestimated – those people who currently find no real need to attend the GP or hospitals more than a few times in the course of a number of years would need to be added to the system for, say, yearly blood tests, at a current anticipated cost of £360/patient. Furthermore, its very aim would be to detect more cancers, leading to potentially increased resources for monitoring, detection and surgery.

From a clinical negligence perspective, however, complex arguments could be raised. This test, for now at least, is not deemed to be 100% accurate, its median sensitivity over the cancers tested was approximately 70%. Its efficiency increases with stage of cancer, size of tumour etc. In the event that this test is used as a screening tool, difficult questions will necessary arise as to when reliance upon the test will be enough in cases where cancer is later found, but was not detected by the test and no further action was taken or further investigation was carried out. Guidelines for its use will therefore need to strike a good balance to ensure that the risk of failure of the test is not ignored.
This test is still at an early stage and whilst there may be drawbacks related to costs, resources, implementation and the finer details of how it will all slot together, it must be heralded as a really important breakthrough that has the ability to really save lives; that is something to be celebrated.

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Naomi Rees
Barrister
3PB Barrister
0117 928 1520
naomi.rees@3pb.co.uk
3pb.co.uk