Testing for cancer

The first step in any approach to cancer - as with any disease - is diagnosis. This may occur at a routine physical examination or, more likely, be the result of the patient noticing some bodily changes.

This may be followed by blood tests that will include both non-specific or specific blood tests. Non-specific tests will examine such things as blood counts, calcium or uric acid levels. Specific tests will look for specific tumour markers. These tests look for chemicals that are produced by various types of tumour.

> Breast, lung and bowel tumours, for example, produce a protein called the carcinoembryonic antigen (CEA)... If a very high CEA level is found then a tumor is assumed to be present until proved otherwise. Similarly, prostate cancers and many cancers of the testicles and ovaries produce known chemicals. (Dollinger, Rosenbaum and Cable, 1994)

Other laboratory tests will examine if there is blood in the urine or faeces. Then there are imaging techniques using x-rays or scanners to see into the body. Or there are ways of achieving direct visual access to parts of the body with specially constructed telescopes such as the bronchoscope (lungs), cytoscope (bladder), colposcope (cervix) etc. The general name for these kinds of tests is endoscopy - which is latin for `looking at the insides.' Then there are the cytological tests which study the cells that have been removed from the body. The Pap smear for cervical cell analysis is the most common of these. Often cells have to be removed through a surgical procedure called biopsy. This is simply the removal of cells from the site of a suspected tumour.

Problems with tests

When the doctor says: 'I'm sure there is nothing to worry about but we'll just do some tests to make sure.' It all sounds very reassuring. When doctors recommend regular check-ups the reasoning seems sound. But there are hidden problems.

Let's take the Pap smear that involves scraping and brushing the inside of the womb to obtain cells for analysis. The removed cells are put on slides, stained with dyes and examined with a microscope. The cytologist will look for the characteristic appearance of malignant or pre-malignant cells. A pathologist should also examine the slides and either diagnose cancer or report a strong suspicion of cancer. According to conservative doctors all women who are 18 or older or sexually active should have a Pap smear test every year or every 1-3 years after three normal yearly exams.

Other doctors disagree vehemently with this suggestion

> ...many excellent organisations such as the National Cancer Institute... endorse periodic or annual Pap smears for cervical cancer...but neither the opinions of the numerous societies nor of the experts are based on any *acceptable* (his italics) clinical trial of the risks versus benefits of Pap smear. (Eugene D. Robin, 1984)

The Pap smear is one of the most widely used of all cancer tests and in Dr Robin's view the dependency on the test is dangerous. First there is the risk of the false positive. As a result a person may believe she has cervical cancer when she hasn't. Or, the reverse problem, there is the false negative. A woman is told she doesn't have cancer when she does. How are these false results possible? Highly qualified specialists study the slides and the cancerous cells have a `characteristic

shape' - how is it possible for mistakes to happen?

First of all, Pap smears require interpretation. Different doctors examining the same specimen under the microscope will vary widely in their opinions. In one study, quoted by Dr Robin, 10 experts disagreed about the presence or absence of cancer cells in about 40 percent of the specimens.

One reason for the confusion is a noncancerous state called dysplasia which occurs in the cells of the cervix and may be difficult or impossible to distinguish from CIS - carcinoma in situ - a form of cancer or precancer where the cells remain localised - CIS does not necessarily become invasive cervical cancer (ICC) Abnormal cells can also appear in the Pap smear as a result of fungal infections, changes in the metabolic state of the subject, or for other reasons. As Dr Robin remarks: "The possibility of finding in the Pap smear abnormal noncancerous cells that can be mistaken for cancer is substantial." The standard surgical response to a positive Pap smear is to perform a hysterectomy. Often, the removed uterus will show no signs of cancer. Similarly, women have been found to have invasive cervical cancer shortly after a negative result. The number of false positives and false negatives amount to over 30 percent of all test results.

The problem for people with false positives is that they may undergo cancer treatment: surgery, radiation and chemotherapy unnecessarily - and they may suffer permanently from this treatment and they may even die from it. According to Dr Robin, the false negative is a lesser problem than the false positive. His reasoning is that ICC is generally a slow growing cancer. A person of 35 diagnosed with ICC should live on average for another 30 years. However, a person who dies from the indicated surgery - abdominal or vaginal hysterectomy - will die immediately (his estimate is that 2 women die for every 1,000 hysterectomies performed; 350 in every 1,000 will have serious complications). Radiation, another response the orthodox doctor may resort to, may cause atrophy of the upper vagina and vaginal scarring as a result of which the woman will find it painful or impossible to continue normal sexual relations.

Dr Robin seems to be arguing that there is a very good argument in favour of doing nothing in the case of cervical cancer. Let nature take its course. Whatever one's views on this conclusion might be, one thing has emerged. The Pap smear is seriously flawed as a test. It is less seriously flawed apparently when other clear signs of cervical problems exist eg bleeding. Any woman who suffers vaginal bleeding and gets one negative Pap smear should insist immediately on a re-test; and a further re-test if necessary.

What are the implications?

This examination of the Pap smear raises one of the key issues relating to tests. Most tests are not 100 percent accurate. When they fail they do so in two ways: the so-called false positive and false negative that we have just met.

Very few tests are clinically tested. For that reason it is not at all obvious what the failure rate is. What this means is that a certain percentage of people get the wrong results. The more people who are tested the more people will be given the wrong results. For this reason, many doctors question whether having annual tests is wise. Why have a test when there are no symptoms? The only result of mass testing must be large numbers of people with false-positives and false-negatives.

Furthermore, there is a second problem with tests. It is becoming increasingly understood that people are different. Most tests assume a norm. Variance from that norm indicates, for the doctor, problems. But for every metabolic process there is a wide spectrum of functioning or performance.

What is normal for one person would be extremely abnormal for another. The cyclist Miguel Indurrain has a resting heart rate of 28. The norm is supposed to be in the region of 60.

A third problem relates to the safety of the test. Some tests should be avoided because they are unsafe. More than one fat man has died while having his heart checked on a running treadmill. Some tests require the inspection or removal of tissue in an operating theatre - all such tests have what professionals refer to as a morbidity factor - a possibility of permanent injury.

Again, a test should only be done if it is likely to lead to a treatment. There is no point in discovering that something exists for which there is no known treatment. This is well illustrated by the following personal story. I know a man whose chest X-ray indicated that there was a possibility something was seriously wrong with his lungs.

"These shadows could be old tubercular scars or it could mean lung cancer," the doctor told him. " If it's cancer I can only give you a few weeks or months to live. The only way I'll know for sure is by going in and having a look." Amazingly, that is what my friend did and the result was painful and expensive surgery that showed there was no problem. I had to laugh when I heard this. "Why didn't you just wait to see if you were still alive in six months' time?" I asked.

Biopsies

A biopsy is the test to see whether a lump is malignant or non-malignant. This information is obtained by the simple act of cutting out a small section of the lump and analysing the cells. There are two problems with biopsies, apart from the problem of interpreting the results. One objection is that the act of cutting out a section of the lump can irritate the lump and so transform it into a malignant tumour when it was not previously malignant. The other objection to cutting a tumour (incisional biopsy, where fine needle aspiration involves removal of part of the internal tissue of the tumour) is that cancerous cells may be released into the bloodstream so facilitating the spread of the cancer throughout the body. The risk is reduced where the whole tumour is removed for a bopsy – excisional biopsy.

Mammograms

The mammogram test has also been criticised for squeezing and bruising breast tissue - and in that way actually promoting the problem that it is supposed to be testing for. Cancer incidence has been shown in some surveys to be higher among women who have annual check ups than among those who have never had a mammogram.

Testing for prostate cancer

For men, an equally frightening kettle of worms has been opened up by the discovery that prostate cancer incidence is very high . The longer you live the more likely it is that you have got it. But the simple fact is, most prostate cancer is very slow growing and not aggressively metastatic. You can live a long time with a cancer of this type and not even know it. So, the question is: who cares? There is no point in testing for something that is almost certainly present. The problem, unfortunately, is that some cases of prostate cancer are aggressively metastatic.

Alternative therapists say that the herb *saw palmetto* has a very beneficial effect on the prostate. So it seems to make sense for men over 50 to assume they have it and to be informed about maintaining their general immune system. Of course, once prostate cancer testing becomes a standard practice,

cancer statistics are going to be skewed. Suddenly there is going to be a huge increase in prostate cancer with good survivability. These are going to skew overall cancer statistics in a way that will look goood but not be very meaningful.

Test results

Finally, another problem with tests that is rarely mentioned is the reporting of the results. Often the patient receives results through a phonecall from a nurse. ‘The results are negative.’ In my own case, my wife died because she accepted this information over the phone. If she had seen the test report she would have seen that there was a comment that indicated something was not 100% right. She would have had a retest.

So, anytime you have a test done, make sure you read the results yourself on the original test result form. One way to achieve this is to insist on having a copy for your own medical file at home. Be happy to pay any photocopying fees. This is to ensure that the doctor reads the results and that you do too. A good doctor will welcome this as a sign that you are willing to take responsibility for your own health and well-being.