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CANCER ISSUE #003

SHOULD CANCER MARKERS BE USED FOR CANCER SCREENING ?

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Hongkongers are becoming increasingly health-conscious, with many receiving regular health screening. Nowadays, there is a plethora of health screening packages on the market, many of which include blood tests for markers of common cancers, such as carcinoembryonic antigen (CEA), cancer antigens CA19-9, CA15-3 and alpha-fetoprotein (AFP). While it may make sense to think that testing for these markers would aid in detecting cancer early, the medical community actually recommends against using these indicators for screening, because of their limitations in their accuracy when used for screening purposes.

Cancer markers are substances that cancer or tumour cells produce and secrete during growth, but normal cells also produce small amounts of these substances naturally. It is not uncommon for clinicians to come across patients who took part in a medical screening package, then finding out that a certain tumour or cancer marker was elevated, such was a common encounter by the writer of this article, with patients who learn their level of CA19-9 is slightly higher than normal. Since the report stated this to be a possible indicator of pancreatic cancer, many of these patients are anxious during consultation, fearing the worst. It is always a relief when the patient's MRI scan shows a normal pancreas, but the days of waiting for the scan result can be daunting. CA19-9 is not a highly specific cancer marker and high levels of CA19-9 does not necessarily indicate presence of cancer. Many common benign diseases such as benign pancreatic cysts, ovarian cysts, uterine fibroids, and gallstones can also cause elevated levels of CA19-9, thereby also increasing the chance of false positives, and unnecessary anxiety for the patient.

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Other cancer indicators also have the same problem. For example, CEA is the most commonly used cancer index for colorectal cancer, but it is not only colorectal cancer that can cause high CEA levels. Other cancers, including cancers of the lung, stomach, bile duct and pancreas can also cause high CEA levels; as well as non-cancer-related causes such as smoking, stomach ulcer, intestinal inflammation, etc.

Another issue with cancer markers is insufficient sensitivity, since not every-one with cancer will have elevated cancer markers. Therefore, normal cancer markers cannot definitively rule out cancer, leading to the oft-mentioned 'false negative'. For example, although alpha-fetoprotein (AFP) is a known marker for liver cancer, it is possible for up to a third of liver cancer patients to have normal AFP levels. Similarly, pancreatic cancer patients could also have normal levels of CA19-9.

Because of the above potential pitfalls when interpreting cancer markers, most cancer screening programmes recommended by medical doctors would not include cancer markers. For example, breast cancer screening would normally involve mammography rather than breast cancer marker Ca15-3. Colon cancer screening should be performed with faecal occult blood tests and colonoscopy. Liver cancer screening would normally employ a combination of ultrasound and AFP marker test.

FRIENDLY REMINDER

Compared with medical imaging or endoscopy, blood tests for cancer markers are relatively simple and cheap, and so these aspects are often exploited to attract customers. However, the public should understand that cancer markers are not an ideal method of cancer screening. Clinically, tests for cancer markers are usually prescribed for patients who have confirmed cancer diagnosis to evaluate the effectiveness of cancer treatment or monitor for cancer recurrence. Should you wish to be screened for cancer, it is best to consult your doctor's opinion on the most appropriate course of action.

Source : Hong Kong Integrated Oncology Centre

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