Screening for Colorectal Cancer

'Screening – A process of turning well persons into patients'

While this may be a cynical view, there is certainly a need to take a critical view of the advice, urge even, for the general public to take up health screening, which is touted as a cost-effective way of preventing many diseases. In the past 2 years, questions have been raised about the use of mammography to screen for breast cancer in women, and prostate-specific antigen (PSA) to screen for prostate cancer in men. The main concerns are about over-diagnosis (with its attendant cost and physical and/or psychological trauma) and the small effect on rates of deaths from these cancers. Over the same period, screening for colorectal cancer (CRC), either with faecal occult blood test (FOBT) or endoscopy (both colonoscopy and yes, sigmoidoscopy too) have been shown to be associated with reduced incidence of and death from CRC. This effect is attributed to polypectomy – removal of polyps found during endoscopy.

In Singapore, the Colorectal Cancer Awareness Month (CCAM) was started by the Singapore Cancer Society in 2002 to promote CRC screening with FOBT. The Health Promotion Board (HPB) added FOBT to its Integrated Screening Programme (ISP) at selected GP clinics since 2012. It is too early to assess the impact of screening locally but the incidence rate of newly diagnosed colorectal cancer for both genders that first increased since 1974 then plateaued around 1999 onwards, has seen a downward trend since 2009. Notwithstanding, CRC is still the most common cancer in Singapore, with almost a quarter at Stage IV when diagnosed.

A few new tests have emerged on the screening scene such as CT colonography, stool DNA (using a combination of new markers for CRC),
PillCam COLON 2 (a swallowed video capsule that takes images of the colon interior), blood tests (Septin 9 methylated DNA and plasma microRNAs) and even breath tests. These represent an ongoing search for more accurate, convenient and non-invasive tests to detect CRC and polyps.

The current gold-standard for detecting early CRC and polyps is colonoscopy. It is also the only procedure that can remove polyps if they are found. Since 2006, this gold standard has been redefined by new standards such as inspection time, polyp or adenoma

detection rate and missed lesion or interval cancer rate which reflect the capability of the endoscopist. Better preparation of the colon is also recognized as an important factor to improve detection rate. To this end, lower volume preparations which are better tolerated, split-dose over evening-before bowel preparation, and performing the endoscopy within 5 hours of cleansing, have been found to be useful. Newer and better endoscopes have been developed in recent years that improve the comfort, safety and effectiveness of colonoscopy. Research is also being done to evaluate the best strategies to utilize limited endoscopy resources such as using sigmoidoscopy alone or in combination with FOBT, guidelines for surveillance (repeat colonoscopy) interval, and once-off colonoscopy at an age later than the current recommended 50 years old.

The data from CCAM 2008 screening was published in a local journal last year. The compliance rate (return of FOBT kits given out) was under 40% and a quarter of all participants who tested positive refuse further investigations. The authors concluded that extensive population education programmes are required to improve compliance and tackle inhibitions among the masses. Indeed, besides patient-related issues, there are also many other system- or test-related and physician-related barriers to compliance with recommended screening.

For the future, we need to

- Determine the safest, most effective strategy to deliver screening to the masses
- Identify persons who need NOT be screened based on risk stratification by novel, cost-effective, accurate, less frequent, and readily accessible methods
- Utilize alternative strategies such as novel screening methods, biomarkers and risk stratification approaches in order to reduce costs and improve overall outcomes
- Improve the current gold standard colonoscopy
- Increase education and compliance

In conclusion,

‘The best screening test is the one that gets done.’