ARE YOU AT RISK OF COLORECTAL CANCER?

UP TO 30 PERCENT OF ALL COLORECTAL CANCERS (CRCS) EXHIBIT SOME DEGREE OF FAMILIAL INHERITANCE, OF which at least five to eight percent are inherited in an autosomal dominant fashion, i.e. the children of affected individuals carrying the mutated gene(s) have a 50 percent chance of inheriting the defective gene. Patients carrying these genes are at extremely high risk of cancers of multiple organs, including the colon, rectum, uterus, ovaries, stomach, small intestine, liver, kidneys and the brain. These patients have an estimated 80 percent lifetime risk of CRC and a 30 percent lifetime risk of uterine and ovarian cancer. In fact, some of these patients with hereditary cancers can present with uterine or ovarian cancer at a young age before they develop colon cancer again later on in life.

Most patients with these genetic markers usually develop colon cancer at around 45 years old, when they are at the peak of their career, with devastating consequences for them and their families. Studies on the Singapore population suggests that up to one quarter of all CRCs under the age of 50 years might be hereditary in nature. For these reasons, genetic testing has been advocated for patients who are suspected of having high-risk hereditary CRC.

Genetic testing must be preceded by a detailed clinical consultation in which the doctor assesses the person's medical and family history. Following genetic counseling, the actual genetic testing will just involve a simple blood sampling from the arm with minimal risks or discomfort. The blood sample will then be sent to a specialized laboratory for analysis. When the test results are available, the doctor will then analyze the results and conduct post-test counseling to explain the results and its implications.

Genetic testing is a once-off procedure and need not be repeated. Patients and family members who do not carry the defective gene may be spared the need for long term clinical surveillance and the associated healthcare costs. If the genetic mutation is confirmed, on the other hand, our Genetic Service would be able to advise on the individual's risk of developing cancer as well as the organs at risk. A personalized risk reduction strategy can then also be formulated, and a protocol for clinical surveillance tailored for the specific individual.

An individual should consider genetic testing if:

- there is a strong family history of 3 or more colorectal cancers affecting 2 or more generations, especially if one of the affected is a first degree relative (such as a parent or sibling);
- there is a personal or family history of colorectal cancer diagnosed before 50 years old;
- you were found to have multiple polyps in the colon, rectum or the rest of the gastrointestinal tract;
- you are from a family known to have hereditary conditions such as:
  - Familial Adenomatous Polyposis (FAP)
  - Lynch Syndrome (LS)
  - Puertz-Jegher's Syndrome (PJS)
  - Cowden's Syndrome (CS)
- your managing physician believes there is a possible hereditary component to your colorectal cancer. ■

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