Hereditary Mixed Polyposis Syndrome [1]

What is hereditary mixed polyposis syndrome?

Hereditary mixed polyposis syndrome (HMPS) is a hereditary condition that is associated with an increased risk of developing growths of normal tissue that form lumps, called polyps, in the digestive tract. As the name suggests, a variety of polyps may occur. The most common polyp type is the hamartomatous juvenile polyp. A hamartoma is a growth of normal-appearing tissue that builds up into a noncancerous tumor. However, the growth can turn into cancer over time. And, the term juvenile refers to the type of polyp (juvenile polyp), not the age of the person. Adenomatous polyps, meaning growths in the lining of the colon that can become cancerous, and hyperplastic polyps, meaning noncancerous growths in the lining of the colon, may occur as well. People with HMPS also have an increased risk of developing colorectal cancer [2].

What causes HMPS?

HMPS is a genetic condition. This means that the risk of polyps and cancer can be passed from generation to generation in a family. A specific gene causing HMPS has not yet been discovered.

How is HMPS inherited?

Normally, every cell has two copies of each gene: one inherited from the mother and one inherited from the father. Although a specific gene has not yet been discovered, HMPS is believed to follow an autosomal dominant inheritance pattern, in which a mutation (alteration) needs to happen in only one copy of the gene for the person to have an increased risk of getting that disease. This means that a parent with a gene mutation may pass along a copy of their normal gene or a copy of the gene with the mutation. Therefore, a child who has a parent with a mutation has a 50% chance of inheriting that mutation. A brother, sister, or parent of a person who has a mutation also has a 50% chance of having the same mutation.

Options exist for couples interested in having a child when they know that one of them carries a gene mutation that increases the risk for this hereditary cancer syndrome. Preimplantation Genetic Diagnosis (PGD) is a medical procedure done in conjunction with in-vitro fertilization (IVF). It allows people who carry a specific known genetic mutation to have children who do not carry the mutation. A woman?s eggs are removed and fertilized in a laboratory. When the embryos reach a certain size, one cell is removed and is tested for the hereditary condition in question. The parents can then choose to transfer embryos which do not have the mutation. PGD

has been in use for over a decade, and more recently has been used for several hereditary cancer predisposition syndromes. For more information, talk with an assisted reproduction specialist at a fertility clinic.

How common is HMPS?

HMPS is considered to be rare.

How is HMPS diagnosed?

There are no specific diagnostic criteria for HMPS. HMPS is suspected in individuals and families with a history of multiple colon polyps of different types. It is also important to consider the possibility of one of the other hereditary polyposis syndromes, such as familial adenomatous polyposis (FAP) [3], Peutz-Jeghers syndrome [4], and juvenile polyposis syndrome [5]. There is currently no blood test that can help diagnose HMPS.

What are the estimated cancer risks associated with HMPS?

People with HMPS are considered to be at increased risk for developing colorectal cancer [2], but the amount of risk has not been estimated.

What are the screening options for HMPS?

There are no specific screening guidelines developed for HMPS. Regular screening colonoscopies are appropriate. A Colonoscopy is an examination used to look inside the body?s large intestine. Many doctors would suggest beginning screening five to 10 years earlier than the youngest age at which polyps were identified in a family member. If polyps are found, screening may need to be done as often as once a year. Learn more about what to expect during a colonoscopy [6].

Screening options may change over time as new technologies are developed and more is learned about HMPS. It is important to talk with your doctor about appropriate screening tests.

Learn more about what to expect when having common tests, procedures, and scans [7].

Questions to ask the doctor

If you are concerned about your risk of colorectal cancer [2] or other types of cancer, talk with your doctor. Consider asking the following questions of your doctor:

- What is my risk of developing colorectal cancer [2]?
- How many colon polyps have I had in total?
- What types of colon polyps have I had? The most common types are hamartomatous juvenile, hyperplastic, and adenomatous.
- What is my risk of other types of cancer?
- What can I do to reduce my risk of cancer?
- What are my options for cancer screening?

If you are concerned about your family history and think your family may have HMPS, consider

asking the following questions:

- Does my family history increase my risk of colorectal cancer [2] or other types of cancer?
- Should I meet with a genetic counselor?
- Should I consider genetic testing [8]?

Additional resources

Guide to Colorectal Cancer [2]

What to Expect When You Meet With a Genetic Counselor [9]

Colon Cancer Alliance
www.ccalliance.org [10]

C3: Colorectal Cancer Coalition
www.fightcolorectalcancer.org [11]

To find a genetic counselor in your area, ask your doctor or visit the following websites:

National Society of Genetic Counselors
www.nsgc.org [12]

National Cancer Institute: Cancer Genetics Services Directory
www.cancer.gov/cancertopics/genetics/directory [13]

Links:
[1] http://www.cancer.net/cancer-types/hereditary-mixed-polyposis-syndrome
[2] http://www.cancer.net/node/31317
[3] http://www.cancer.net/node/18852
[4] http://www.cancer.net/node/19535
[5] http://www.cancer.net/node/18955
[6] http://www.cancer.net/node/24481
[7] http://www.cancer.net/node/24959
[8] http://www.cancer.net/node/24895
[9] http://www.cancer.net/node/24907
[10] http://www.ccalliance.org/
[11] http://www.fightcolorectalcancer.org/
[12] http://www.nsgc.org/
[13] http://www.cancer.gov/cancertopics/genetics/directory