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Understanding Your Pathology Report: Invasive Adenocarcinoma of the Colon

When your colon was biopsied, the samples taken were studied under the microscope by a specialized doctor with many years of training called a *pathologist*. The pathologist sends your doctor a report that gives a diagnosis for each sample taken. This report helps manage your care. The questions and answers that follow are meant to help you understand the medical language used in the pathology report you received for your biopsy. They do not cover all of the information that would be in a pathology report that would result from having part of your colon removed (resected) to treat [colon cancer](#)¹.

What if my report mentions the cecum, ascending colon, transverse colon, descending colon, sigmoid colon, or rectum?

These are all parts of the large intestine. The cecum is the beginning of the colon, where the small intestine empties into the large intestine. The ascending colon, transverse colon, descending colon, and sigmoid colon are other parts of the colon after the cecum. The colon ends at the rectum, where waste is stored until it exits through the anus.

What is adenocarcinoma of the colon (or rectum)?

Adenocarcinoma is a type of cancer that starts in the cells that form glands making mucus to lubricate the inside of the colon and rectum. This is the most common type of colon and rectum cancer.

What do the words invasive or infiltrating mean?

As colon cancer grows and spreads beyond the inner lining of the colon (mucosa), it is called *invasive* (or *infiltrating*) *adenocarcinoma*. Cancers that are invasive are called

true cancers because they can spread to other places in the body.

Does this mean that the tumor has invaded deeply and is associated with a poor prognosis?

Not always. All this means is that it is a true cancer. A biopsy is just a small part of a tumor taken from the inside of the colon, so it can't always show how deeply the tumor has invaded into the wall of the colon. In order to know how far the cancer has invaded, the pathologist needs to have the entire tumor (removed at surgery).

What does differentiation mean?

Differentiation is the **grade** of the cancer, which is based on how abnormal the cells look under the microscope. Cancers that are higher grade or poorly differentiated tend to grow and spread more quickly. Colon cancer is usually divided into 3 grades:

- Well differentiated (low grade)
- Moderately differentiated (intermediate grade)
- Poorly differentiated (high grade)

Sometimes, though, it is just split into 2 grades: well-moderately differentiated (low grade) and poorly differentiated (high grade).

What is the significance of the grade of colon cancer?

Grade is one of the many factors used to help predict how likely a cancer is to grow and spread. Poorly differentiated (high-grade) colon cancers tend to grow and spread more quickly than well and moderately differentiated colon cancers. However, other factors are also important in determining a person's prognosis (outlook), such as how far the cancer has spread (which cannot be determined on the biopsy).

What does it mean if there is vascular, lymphatic, or lymphovascular (angiolymphatic) invasion?

These terms mean that cancer is present in the blood vessels and/or lymph vessels of the colon, so there is an increased chance that cancer could have spread outside of the colon. However, this doesn't mean that your cancer has spread or is not curable. The presence of this type of invasion may be a factor in what type of treatments are recommended after the cancer is removed.

What is a polyp?

A polyp is a projection (growth) of tissue from the inner lining of the colon into the lumen (hollow center) of the colon. Different types of polyps look different under the microscope. Polyps are benign (non-cancerous) growths, but cancer can start in some types of polyps.

What does it mean if, in addition to cancer, my report says there are also other polyps such as adenomatous polyps (adenomas) or hyperplastic polyps?

Colon polyps are common. Hyperplastic polyps are typically benign (not cancer or pre-cancer) and are not a cause for concern. But the different types of adenomatous polyps (adenomas) need to be removed. Still, if polyps are present in addition to cancer elsewhere in the colon, they don't usually affect the treatment or follow-up of the cancer.

What does it mean if mucin or colloid is mentioned in my report?

Mucin is produced by the colon to help lubricate the colon. Colon cancers that produce large amounts of mucin are referred to as *mucinous* or *colloid adenocarcinomas*. Typically when it is present on a biopsy, it will not affect treatment.

What does it mean if my biopsy report mentions special tests such as microsatellite instability (MSI) and MSH2, MSH6, MLH1, and PMS2?

In some colon cancers, special lab tests may reveal an abnormality referred to as *microsatellite instability* or *MSI* in the cancer cells. Microsatellite instability is associated with defects (mutations) in several mismatch repair (MMR) genes, including *MSH2*, *MSH6*, *MLH1*, and *PMS2*. Inherited defects in these genes can lead to a disease called [Lynch syndrome or hereditary non-polyposis colon cancer \(HNPCC\)](#)².

If your cancer is found to have MSI or a defect in an MMR gene, your doctor may recommend genetic counseling and testing of your blood to see if you have Lynch syndrome. Along with having a high risk of colon cancer, people with Lynch syndrome have an increased risk for some other cancers. Other family members who have inherited the same gene mutation are also at increased risk for these cancers.

MSI test results may also affect your colon cancer treatment. For example, early-stage cancers with low levels of MSI (or no MSI) may need to be given more aggressive treatment than other early-stage cancers.

What does it mean if my biopsy report mentions special tests such as KRAS, NRAS, and BRAF?

These tests look for changes in the *KRAS*, *NRAS*, and *BRAF* genes inside the cancer cells. For people with more advanced colon cancer, these tests can help determine whether or not you might benefit from treatment with certain types of drugs (called [targeted drugs](#)³ or targeted therapy). In other words, they are used to help your doctor determine the best treatment for your cancer. Although these tests look for certain gene mutations, they are not related to genetic counseling or testing. They only give information about the cancer itself and the precise type of treatment you might need. Remember that not every patient with colon cancer even needs other types of treatment besides surgery.

Hyperlinks

1. www.cancer.org/cancer/colon-rectal-cancer.html
2. www.cancer.org/cancer/colon-rectal-cancer/causes-risks-prevention/risk-factors.html
3. www.cancer.org/cancer/colon-rectal-cancer/treating/targeted-therapy.html
4. www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-pathology-report/faq-initiative-understanding-your-pathology-report.html

Last Medical Review: February 27, 2017 Last Revised: February 27, 2017

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Written by

This series of Frequently Asked Questions (FAQs) was developed by the Association of Directors of Anatomic and Surgical Pathology to help patients and their families better understand what their pathology report means. These FAQs have been endorsed by the College of American Pathologists (CAP) and reviewed by the American Cancer Society.

Learn more about the FAQ Initiative (www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-pathology-report/faq-initiative-understanding-your-pathology-report.html)⁴