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Information about common pathology findings:

What does my histology report tell me?

This information refers to findings you may read in your histology report, endoscopy report or clinic letter. It is meant to explain common findings and answer frequently asked questions. It cannot and should not replace a discussion with your specialist.

NORMAL LINING OF THE DIGESTIVE SYSTEM:

The digestive system is responsible for the ingestion and digestion of dietary substances, the absorption of nutrients, and the elimination of waste products. The secretions of the associated glandular organs, such as the salivary glands, pancreas, liver, and gall bladder, aid the digestive tract in accomplishing these functions. The intestine is the most highly regenerative organ in the human body, regenerating its lining, called the epithelium, every five to seven days. The digestive system or gastrointestinal (GI) tract is a muscular tube lined by a mucous membrane and features a basic histological organization that is similar across all of its segments of the tract. Several distinct, concentric layers line each segment of the tract:

• The mucosa, the inner layer that surrounds the lumen of the GI tract, consists of an epithelial cell layer supported by a thin layer of connective tissue known as the lamina propria. The muscularis mucosa is a thin layer of smooth muscle that supports the mucosa and provides it with the ability to move and fold. Most samples taken in endoscopy (e.g. while colonoscopy) will comment on the mucosa.

• The submucosa is a thick connective tissue layer that contains arteries, veins, lymphatics, and nerves.

• The muscularis externa surrounds the submucosa and is composed of two muscle layers, which relates to the movement (peristalsis).

• The adventitia, the outside layer

If a small sample (biopsy) is taken out of the digestive system, and everything is as it should be, your pathology report may state: "within normal limits" or similar

INFLAMMATION:

Inflammation means a higher than usual number of inflammatory cells found in e.g. the mucosa, with or without disturbance of the normal architecture. There are numerous causes for inflammation, and it can be short lived (acute) or longer standing (chronic).

Stomach/Gastritis: Gastritis means acute or chronic inflammation of the lining of the stomach. An acute gastritis may be caused by excessive intake of alcohol, ingestion of irritating drugs, food poisoning, and infectious diseases. Chronic gastritis may be caused by prolonged use of aspirin or nonsteroidal anti-inflammatory drugs (NSAIDs, like Ibuprofen), infection with Helicobacter pylori, or a condition called pernicious anemia.

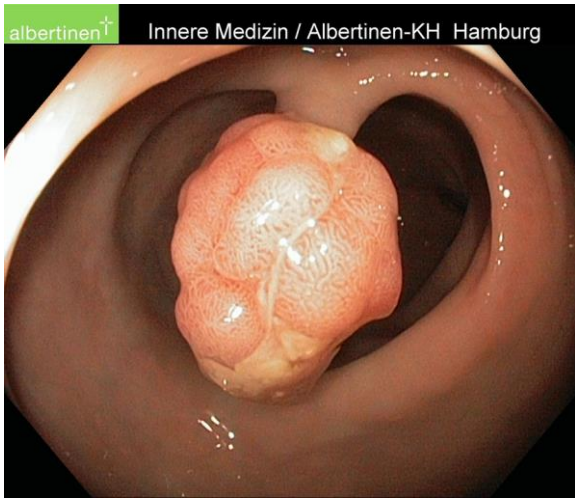
It is important to distinguish between gastritis (with inflammation) and gastropathy (in which there is cell damage and regeneration, but minimal inflammation);

Upper small bowel/duodenitis: This means acute or chronic inflammation of the lining of the upper small bowel, next to the stomach. There is a large number of possible causes, including the bacteria H. pylori, other infections, certain medications, such as nonsteroidal anti-inflammatory drugs (NSAIDs, like Ibuprofen), alcohol, smoking, bile, coeliac disease (gluten related), crohns disease.

Large bowel/Colitis: Colitis means inflammation of the large bowel (the colon). The term is often used in a nonspecific way. The underlying cause and diagnosis can include acute infections, and noninfectious colitis (focal or diffuse), also ulcerative colitis, crohns colitis, NSAID (like Ibuprofen) colitis, and ischemic colitis.

BOWEL POLYPS:

Polyps are growths that develop e.g. in your large intestine (bowel or colon). They are often less than 1 cm in size, although they can grow up to several centimetres. Bowel polyps are caused by abnormal production of cells in the bowel wall. Most colon polyps are harmless. But over time, some colon polyps can develop into colon cancer, which can be fatal when found in its later stages.



A bowel polyp (in this case adenoma) on a stalk (source [11])

If you have bowel polyps, the risk of bowel cancer will depend on several factors, including the number, size and type of polyps (see below). In general, the larger a polyp, the greater the risk of cancer, especially with neoplastic polyps.

There are two main categories of polyps, non-neoplastic and neoplastic. Non-neoplastic polyps include hyperplastic polyps, inflammatory polyps and hamartomatous polyps. These types of polyps typically do not become cancerous. Neoplastic polyps include adenomas and serrated types.

Anyone can develop colon polyps. You are at higher risk if you are 50 or older, are overweight or a smoker, or have a personal or family history of colon polyps or colon cancer.

Colon polyps often do not cause symptoms. Colon polyps found in the early stages can usually be removed safely and completely. The best prevention for colon cancer is regular screening for polyps.

If you had bowel polyps removed, you will very likely need a follow up colonoscopy, with the timeframe depending on findings, histology and personal risk, to be advised by your specialist/endoscopist. Risks and benefits of the procedure have to be balanced in each individual case. It is important that you keep this timeframe in mind as well, and ensure this follow up happens.

TYPES OF BOWEL POLYPS:

A small hyperplastic polyp (source [11])

Hyperplastic polyps

These are common. They can be difficult to spot, and are often small - usually less than half a centimetre in diameter. They are generally regarded as low risk and only very rarely develop into a cancerous (malignant) growth.

Adenomas

These too are common. Most are small (usually less than a centimetre in diameter) but they can be bigger. Some are stalked. There is a risk that an adenoma may, in time, become cancerous. If one does turn cancerous, the change usually takes place after a number of years.

Adenomatous polyps are grouped into three types: Tubular adenomas (TA) are the more common adenomatous polyps, they can become cancerous if not detected early, and are caused by mutations inherited genetically or from environmental factors. The two less common forms are the villous and tubulovillous adenomas, and they represent about fifteen percent of colon polyps and are prone to developing into cancer more than other types. Villous and tubulovillous adenomas are noticeably characterized by their flat appearance, whereas tubular polyps can be more rounded.

Colorectal cancer/bowel cancer: Around 70% to 80% of these cancers arise from adenomatous polyps via the so-called "adenoma-carcinoma pathway". As stated above, this normally takes years.

Serrated polyps

Serrated polyps get their name from their jagged (saw-tooth) appearance on microscopy. In the past, serrated colorectal lesions were called hyperplastic polyps. But with the advent of molecular and genetic diagnostics and with the ability to recognize the subtle morphologic differences of serrated lesions, they have been reclassified into hyperplastic polyps and those that are neoplastic. These 2 neoplastic types look a little different under the microscope: Sessile serrated adenomas (also called sessile serrated polyps) and Traditional serrated adenomas. Both types need to be removed from your bowel.

Sessile serrated polyps develop along a molecular pathway which is different from that of conventional adenomas.

DYSPLASIA and HYPERPLASIA

Dysplasia is a term that describes a change of the normal lining. Normal cells may become cancer cells, but before cancer cells form in tissues of the body, the cells go through abnormal changes called hyperplasia and dysplasia.

In hyperplasia, there is an increase in the number of cells in an organ or tissue that appear normal under a microscope.

In dysplasia, the cells look abnormal under a microscope but are not cancer.

In case of bowel polyps (see above): Polyps that are only mildly abnormal (do not look much like cancer) are said to have low-grade (mild or moderate) dysplasia. Polyps that are more abnormal and look more like cancer are said to have high-grade (severe) dysplasia. The most important thing is that your polyp has been completely removed and does not show cancer. If high-grade dysplasia is found in your bowel polyp, it might mean you need to have a repeat (follow-up) colonoscopy sooner than if high-grade dysplasia wasn't found.

In case of Barretts oesophagus: This is a reflux related change of the lining of the lower oesophagus, management and follow up will also depend on whether or not dysplasia has been found in the samples..

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Sources:

[1] www.healthnavigator.org.nz/health-a-z/b/bowel-polyps/

[2] www.mayoclinic.org/diseases-conditions/colon-polyps/symptoms-causes/syc-20352875

[3] Information for people at increased risk of bowel cancer - 2012 update

Published by the New Zealand Guidelines Group

[4] www.healthprep.com/articles/conditions/the-8-most-common-types-of-colon-polyps/

[5] www.cancer.org/treatment/understanding-your-diagnosis/tests/understanding-your-pathology-report/colon-pathology/colon-polyps-sessile-or-traditional-serrated-adenomas.html

[6] Sessile serrated polyps: Cancer risk and appropriate surveillance

Cleveland Clinic Journal of Medicine, Vol 79; 12, Dec 2012

[7] www.news.harvard.edu/gazette/story/2017/07/understanding-how-the-intestine-replaces-and-repairs-itself

[8] www.medcell.med.yale.edu/histology/gi_tract_lab.php

[9] www.britannica.com/science/gastritis

[10] www.pathologyoutlines.com/topic/colonactivecolitis.html

[11] www.endoskopiebilder.de/endoskopie-bilder/kolon/

[12] Medscape: What is the difference between gastritis and gastropathy?