



## Carcinoid Tumor in Human Body

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### EDITORIAL

Carcinoid tumors are of neuroendocrine origin and derived from primitive stem cells in the gut wall, especially the appendix. They can be seen in other organs including the lungs, mediastinum, thymus, liver, bile ducts, pancreas, bronchus, ovaries, prostate, while carcinoid tumors have a tendency to grow slowly, they have a potential for metastasis.

Carcinoid tumors are the most common malignant tumor of the appendix, but they are most commonly associated with the small intestine, and they can also be found in the rectum and stomach. They are known to grow in the liver, but this finding is usually a manifestation of metastatic disease from a primary carcinoid occurring elsewhere in the body. They have a very slow growth rate compared to most malignant tumors. The median age at diagnosis for all patients with neuroendocrine tumors is 63 years.

### SIGNS AND SYMPTOMS

While most carcinoids are asymptomatic through the natural lifetime and are discovered only upon surgery for unrelated reasons (so-called coincidental carcinoids), all carcinoids are considered to have malignant potential.

About 10% of carcinoids secrete excessive levels of a range of hormones, most notably serotonin (5-HT), causing:

Flushing (serotonin itself does not cause flushing). Potential causes of flushing in carcinoid syndrome include bradykinins, prostaglandins, tachykinins, substance P and histamine, diarrhea, and heart problems.

Diarrhea

Wheezing

Abdominal cramping

Peripheral edema

Carcinoid tumors are apudomas that arise from the enterochromaffin cells throughout the gut. Over two-thirds of carcinoid tumors are found in the gastrointestinal tract. Carcinoid tumors are also found in the lungs.

Metastasis of carcinoid can lead to carcinoid syndrome. This is due to the over-production of many substances, including serotonin, which are released into the systemic circulation, and which can lead to symptoms of cutaneous flushing, diarrhea, bronchoconstriction, and right-sided cardiac valve disease. It is estimated that less than 6% of carcinoid patients will develop carcinoid syndrome, and of these, 50% will have cardiac involvement.

This is considered to be a hybrid between an exocrine and endocrine tumor derived from crypt cells of the appendix. Histologically, it forms clusters of goblet cells containing mucin with a minor admixture of Paneth cells and endocrine cells. The growth pattern is distinctive: typically producing a concentric band of tumor nests interspersed among the muscle and stroma of the appendiceal wall extending up the shaft of the appendix.

Surgery, if feasible, is the only curative therapy. If the tumor has metastasized for arresting the growth of the tumors and prolonging survival in patients with liver metastases, though these are currently experimental.

The WHO now divides these growths into neuroendocrine tumors and neuroendocrine cancers. Neuroendocrine tumors are growths that look benign but that might possibly be able to spread to other parts of the body.

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**Received:** March 15, 2021; **Accepted:** March 22, 2021; **Published:** March 29, 2021

**Citation:** Yin CC (2021) Carcinoid Tumor in Human Body. J Leuk. 9:e115.

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