

## Not Always Reflux is Acidity - Barrett's Esophagus

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### Summary

Barrett's esophagus is a disease that commonly manifests itself more common in white males, and its prevalence increases with aging, although there are no precise statistics it is believed that around one million Argentines suffer from this precancerous pathology. For this, it is recommended to perform single esophagoscopy in individuals with persistent symptoms of gastroesophageal reflux at 50 years of age [1]. Due to the chronic irritation produced by the abnormal reflux of gastric acid into the esophagus, after several years of irritation, the tissues of the esophageal junction with the stomach develop a defense covering with stomach tissue to be able to resist the burning of the acid. In these new tissues, goblet cells similar to those of the small intestine develop, but with the difference that these new cells are not the same and have the potential to become a gastric cancer of the esophageal junction with the stomach.

### Material and Method

The esophagus is a tubular organ that connects the mouth with the stomach; normally it is covered by a layer or squamous epithelium, one of its functions being to prevent the reflux of the acid content of the stomach into the esophagus and airways. It is the replacement of the normal squamous epithelium of the distal esophagus by another called intestinal metaplasia. This process usually occurs as a result of repetitive damage inside the esophagus, the current evidence points out that this

change is caused by a chronic disease called gastroesophageal reflux disease [2]. This disease leads to erosive esophagitis and in some people to the metaplastic change of the esophageal epithelium; this damage is the product of repeated exposure of excessive amounts of stomach acid to the esophagus [3].

Interestingly, the cells of intestinal metaplasia of Barrett's esophagus are more resistant to acid, suggesting that these cells can develop to protect the esophagus from acid exposure. The problem is that the cells of the intestinal metaplasia have a high risk of transforming into cancer cells or esophageal adenocarcinoma.

### What are the Risk Factors for Barrett's Esophagus?

The prevalence of Barrett's esophagus in the adult population is generally thought to be 1.6-1.7% (although estimates have varied widely from 0.9% to more than 20% depending on the population studied and the definition of Barrett's esophagus). According to the last National Census, this would translate into about one million people with probable diagnosis of Barrett's esophagus in the Argentine Republic. In patients suffering from gastroesophageal reflux, the prevalence of Barrett's esophagus is higher, approximately 5-10%. In patients with severe gastroesophageal reflux disease, such as those with erosive esophagitis, the prevalence is approximately 10%, in patients with esophageal stricture of the esophagus, the prevalence is almost 30% [4].

## Conclusion

It is a complication of chronic damage by the reflux of gastric acid is supported by the fact that Barrett's esophagus is very rare in children.

## What are the Symptoms of Barrett's Esophagus?

Barrett's esophagus itself does not produce symptoms. In contrast, most of the people consult or seek help due to the symptoms of gastroesophageal reflux disease, including heartburn or discomfort in the pit of the stomach, feeling of regurgitation of the contents of the stomach and, less commonly, difficulty in swallowing. In addition, Barrett's esophagus cannot be detected correctly by diagnostic imaging methods such as ultrasound or tomography or magnetic resonance imaging. Currently the most effective diagnostic method of Barrett's esophagus is high endoscopy or gastroscopy with biopsy taken from the distal esophagus, performed by a gastroenterologist trained in this disease.

## Complications of Barrett's Esophagus

A potential complication is that over time, the lining of the abnormal esophagus develops the first precancerous changes. These changes can progress and eventually evolve into esophageal cancer. If not detected, this cancer can spread and invade the surrounding tissues and metastasize. Clinical studies of patients with Barrett's esophagus reveal that 0.5 percent of patients develop esophageal cancer per year. Those that present a higher risk of developing adenocarcinoma of the esophagus are those that exhibit a long Barrett's esophagus (greater than 3cm in length), a family history of esophageal cancer and the presence of dysplasia. Several studies show that the rate of progression to adenocarcinoma of the esophagus in patients with high-grade dysplasia can vary between 15-60% per year.

This growth of esophageal cancer is a reality where curative oncological treatments are scarce since the disease is detected in advanced stages. Esophageal cancer is the sixth cause of cancer death in the world and data from the United States show that the histological type of adenocarcinoma, linked to Barrett's esophagus, has doubled its incidence and mortality rate in the last 20 years. However, it must be clarified that the course and prognosis of most patients with Barrett's esophagus are benign, and despite the anxiety that this diagnosis can cause in patients, the disease can be managed with adequate treatment [5].

## Risk Increase Factors

- i. Age - Barrett's esophagus is diagnosed more frequently in adults with an average age at diagnosis of 50-55 years.
- ii. Gender - Barrett's esophagus affects men more than women in a ratio of approximately 3:1.
- iii. Ethnicity - Barrett's esophagus is equally common in the white and Hispanic population and is uncommon in black and Asian populations.
- iv. Lifestyle - Smokers have more risk of Barrett's esophagus than non-smokers.

## Conclusion

It is one of the fastest growing digestive cancers "Currently, the scientific societies (American Gastroenterological Association) recommend the endoscopic radiofrequency ablation as a curative treatment of Barrett's esophagus. This procedure was recently published in the most important scientific journal in the world the New England Journal of Medicine as a highly effective treatment (greater than 90% success rate) for the complete eradication of Barrett's esophagus. People with Barrett's esophagus have an increased risk of developing esophageal cancer than those without the disease. Strictly speaking, esophageal cancer is currently one of the digestive cancers with the highest growth in incidence and death associated with cancer in Western countries such as the United States and the European Union, as is also estimated in Argentina."

"The main objective of this non-invasive procedure is the ablation or removal by endoscopic techniques of the abnormal lining of the esophagus. Subsequently, normal tissue is regenerated, eliminating or considerably reducing the chances of developing esophageal cancer. Today we have technology effective enough to combat and eradicate Barrett's esophagus. Esophageal cancer when it is diagnosed is often advanced and unfortunately of poor prognosis. Esophageal cancer has a five-year survival rate of less than 10 percent in the best centers in the world. The usual scenario is that of a patient who has symptoms of long-standing reflux, this can then evolve to Barrett's esophagus, then continues in time without treatment, developing in some cases the cancer of the esophagus, where we arrived late and without effective treatments [6]."

## References

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