Savannah HEALTH PERSPECTIVE©

Heartburn & Cancer: Am I at Risk?

Mark E. Murphy, M.D., F.A.C.P., A.G.A.F.

It's a refrain that gastroenterologists hear every day: "I read somewhere that heartburn can be a sign of cancer. Is that true?"

Physicians have known for years that chronic gastroesophageal reflux disease (GERD) can lead to changes in the type of cells lining the inside of the esophagus, the swallowing tube that leads from the mouth to the stomach. Those changes in the lining (or "epithelium") of the esophagus can result in something called Barrett's epithelium. Such changes are significant because Barrett's epithelium can indeed lead to cancer of the esophagus in some people who have it.

SO WHAT IS BARRETT'S EPITHELIUM?

The esophagus is normally lined by a layer of cells known as squamous cells. Squamous cells are flat, like a fried egg. In many people, gastroesophageal reflux disease ("GERD") does not cause any change in the cell type lining the esophagus. However, in certain individuals, GERD can result in a change in the type of cell that lines the esophagus. These different cells are shaped like cubes, or columns, and are therefore called columnar cells. Columnar cells can look like the kinds of cells normally lining the stomach (gastric-type epithelium) or they can look like the cells lining the small intestine (intestinal-type epithelium). This latter change-intestinal-type cells being found in the esophagus—is called Barrett's epithelium. This term comes from the name of the English physician who first described the phenomenon in the 1950's.

Barrett's epithelium usually begins in the lower esophagus, near the junction of the normal squamous lining of the esophagus and the normal columnar lining of the stomach. This area is called the squamocolumnar junction, and is typically a zigzag line which can be seen with the naked eye. The line of demarcation between the two types of cells is called the "Z-line." Barrett's cells that show precancerous changes on biopsy are termed "dysplastic cells;" the term for having dysplastic cells is "dysplasia."

The diagnosis of Barrett's epithelium is always made on the basis of biopsy findings showing intestinal-type cells, as seen under the microscope. Barrett's can be termed "short-segment Barrett's" (with a length of less than three centimeters) or "long segment Barrett's" (with a length of more than three centimeters). The longer the segment of Barrett's epithelium, the higher the risk that the Barrett's might contain cells that might be precancerous, or dysplastic.

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WHO GETS BARRETT'S EPITHELIUM?

Although anyone with GERD can get Barrett's epithelium, the typical person at risk for Barrett's is a white, middle-aged male. Males with Barrett's outnumber females with Barrett's by a 4:1 ratio. Additionally, persons of Asian and African-American or Native American ancestry develop Barrett's at a much lower rate than Caucasians. The reasons for this discrepancy are unclear, although much of it is likely genetic. Persons with frequent GERD symptoms (several times per week) should be considered to be at risk for the development of Barrett's epithelium, particularly if they are in a high-risk (i.e. white male) demographic group. Advancing age and obesity are also risk factors for developing Barrett's. Both obesity and age greater than 40 independently increased the risk of the development of Barrett's by factors of greater than a factor of two.

It is interesting to note that approximately 40 percent of patients who develop cancer of the esophagus as a result of Barrett's deny ever having typical heartburn or reflux symptoms. Again, the cause for this is unclear.

IF A PERSON HAS BARRETT'S EPITHELIUM, WHAT IS THE RISK THAT THEY WILL DEVELOP CANCER OF THE ESOPHAGUS?

Barrett's epithelium can result in dysplasia, which in turn can progress into invasive cancer, or adenocarcinoma, of the esophagus. Patients with Barrett's epithelium have a 30-40 times greater likelihood of developing adenocarcinoma of the esopha-