



# Challenging obesity relating to Barrett esophagitis

## KEY WORDS

Pop, soft drinks, Barrett esophagitis, dysplasia

The Editor,  
*Current Oncology*  
January 2, 2010

In North America, the imbibing of soda pop is acknowledged as a cause of dental erosion<sup>1</sup>. Also, consumption of sugar-rich soda in North America is increasing annually<sup>2</sup>. For example, in the United States, 19-year-olds drank 44 gallons of soda on average in 1996 and 56 gallons in 1999—28 ounces daily, with 27% of beverage consumption being a type of cola. All this amounts to a total consumption of more than 14 billion gallons annually in the United States (National Soft Drink Association. 2008).

This increase in pop consumption is also putatively linked to an increase in the prevalence of obesity<sup>3</sup>. Even though obesity is associated with 100,000 cancers annually in the United States<sup>4</sup>, is it possible that a causal agent other than obesity is also implicated in the prevalence of cancers? Even positing the assumption that obesity somehow does predispose to cancer, could another closely associated, ubiquitous cause of obesity perhaps also contribute to the increase in the prevalence of cancers?

Consider: The number of preventable cancers **avoided** when people remain slender has been estimated. Estimates calculated for esophageal cancer place the number at ~35% of cases—about 5800 people. Others cancers **in the preventable category** include pancreatic, gallbladder, colon, breast, endometrial, and kidney cancers<sup>5</sup>.

In animals, consumption of acid soda pop has been implicated experimentally as a mitogenic stimulant in the esophageal mucosa<sup>6</sup>. Barrett esophagitis results from chronic exposure to gastric acid, is a precancerous condition, and in the United States, is

reportedly increasing in prevalence. Not all Barrett esophagus will develop into esophageal cancer, but the general incidence of this cancer has increased by a factor of 5 over the last 30 years<sup>7,8</sup>.

Is it possible that prolonged exposure of the esophagus to increased consumption of acidulated soda (acknowledged to cause obesity), with increased direct exposure of the esophageal mucosa to acid pop, is causally related to esophageal carcinoma?

Sincerely,  
Louis Z.G. Touyz BDS MSc(Dent) MDent(OralMed&Perio),  
Faculty of Dentistry  
McGill University  
238b-3640 University Avenue  
Montreal, Quebec H3A 2B2

## REFERENCES

1. Jaeggi T, Lussi A. Prevalence, incidence and distribution of erosion. Ch. 5. In: Lussi A, ed. *Dental Erosion: From Diagnosis to Therapy*. New York, NY: Karger; 2006: 44–65.
2. von Fraunhofer JA, Rogers MM. Dissolution of dental enamel in soft drinks. *Gen Dent* 2004;52:308–12.
3. Squires S. Soft drinks, hard facts: research suggests kids who drink a lot of soft drinks risk becoming fat, weak-boned, cavity-prone and caffeine-addicted. *The Washington Post* Feb 27, 2001; HE10.
4. Reuters. Obesity causes 100,000 cancers a year in U.S. Study links fat with specific types of cancer. *The Gazette (Montreal)* Nov 7, 2009 [final ed.]; A27.
5. Shaheen NJ, Sharma P, Overholt BF, et al. Radiofrequency ablation in Barrett's esophagus with dysplasia. *N Engl J Med* 2009;360:2277–88.
6. Kapicioğlu S, Baki A, Reis A, Tekelioğlu Y. Cola drinks consumption and oesophagitis. *Dis Esophagus* 1999;12:306–8.
7. Enzinger PC, Mayer RJ. Esophageal cancer. *N Engl J Med* 2003;349:2241–52.
8. Esophageal cancer: epidemiology, pathogenesis and prevention. *Nat Clin Pract Gastroenterol Hepatol* 2008;5:517–26.