Genetics Important in Barrett's, Esophageal Cancer

BY BRUCE K. DIXON
Chicago Bureau

CHICAGO — Family history plays a larger role in Barrett's esophagus and associated cancers than was previously recognized, according to Dr. Amitabh Chak.

"There's clearly an inheritance pattern that suggests an autosomal dominant disease," said Dr. Chak at the annual midwest clinical research meeting.

Efforts to track down a genetic basis for Barrett's esophagus (BE) and related adenocarcinomas began with a cross-sectional pilot study by Dr. Chak, a gastroenterologist at Case Western Reserve University, Cleveland, and his colleagues.

The researchers compared 56 patients with BE or adenocarcinoma of the esophagus or gastroesophageal junction with 106 control patients who had gastroesophageal reflux.

The striking finding was that the Barrett's and esophageal cancer cases reported a positive family history for these diseases significantly more often than did the reflux controls," Dr. Chak said at the meeting of the Central Society for Clinical Research and the Midwestern Section of the American Federation for Medical Research.

That pilot study led us to formulate the most focused hypothesis that BE and associated cancers are complex genetic diseases with a combined underlying genetic and environmental cause, and I think there's an inherited susceptibility to develop intestinal metaplasia, but that susceptibility may be present in only a subset of these patients who have this disease," he said.

To test their hypothesis, the investigators went on a "gene hunt," beginning with the endoscopic screening of relatives with BE or esophageal cancer. They and other researchers continue to make progress, but the breakthrough came with the identification of a large family with 13 affected members. The findings showed an inheritance pattern that suggested an autosomal dominant disease, Dr. Chak said.

With the help of other investigators in the Familial Barrett's Esophagus Consortium, the Case Western team began to accumulate prospective data on the affected families and published its first report on their phenotypes and demographics in 2004. The researchers found that endoscopy could identify esophageal cancer and Barrett's esophagus in members of families in which one or more members have been affected.

The breakthrough came with the identification of a large family with 13 affected members. The findings showed an inheritance pattern that suggested an autosomal dominant disease, Dr. Chak said.

With the help of other investigators in the Familial Barrett's Esophagus Consortium, the Case Western team began to accumulate prospective data on the affected families and published its first report on their phenotypes and demographics in 2004. The researchers found that endoscopy could identify esophageal cancer and Barrett's esophagus in members of families in which one or more members have been affected.