Breakfast with the Experts

Management of Barrett’s Esophagus with or without Dysplasia

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Barrett’s esophagus (BE) is known precursor to esophageal adenocarcinoma (EAC). Typically seen in patients with chronic gastroesophageal reflux, BE is metaplasia of esophageal mucosa from normal stratified squamous epithelium to specialized intestinal type cells with goblet cells. Histologic spectrum of BE ranges from non-dysplastic (ND) to low grade dysplasia (LGD), and to high grade dysplasia (HGD) with increasing degree of malignant transformation potential. Genetic and environmental factors contribute to development and progression of the disease. Some of these risk factors include Caucasian ethnicity, male gender, obesity, lower socioeconomic status, and smoking.

Traditionally, focus of BE management was on the optimization of endoscopic surveillance methods and interval. Esophagectomy was reserved for BE patients with HGD as the surgery, although curative, is fraught with significant morbidity and mortality. Recent population observation studies suggested that malignant transformation potential of BE is not as high as once thought. As such, endoscopic surveillance intervals also changed to accommodate. Multiple international gastroenterology society guidelines recommend endoscopic surveillance interval of 3-5 years for NDBE patients, every 6 months for LGD patients, and every three months for BE patients with HGD.

The introduction of radio frequency ablation (RFA) treatment revolutionized the endoscopic treatment of BE. Using high frequency alternating current, RFA delivers predictable depth and area of thermal injury, resulting in destruction of BE epithelium, and replacing with neo-squamous epithelium. RFA treatment for dysplastic BE boasts high rate of intestinal metaplasia (IM) eradication and regression of dysplastic tissue. Long term follow up on BE patients who received RFA treatment showed durability of RFA, maintaining high rate of IM free state. This technology, combined with existing tissue resection technique, is now widely accepted first line treatment options for dysplastic BE.

Over the last several years, the controversies regarding who to recommend for treatment and who to recommend survey have eventually coalesced into rather similar gastroenterology societal guidelines. By and large, non-dysplastic BE patients are recommended for endoscopic surveillance with minor exceptions in special circumstances. BE patients with LGD and HGD are recommended to undergo endoscopic treatment, often combining both tissue ablative and resective method.

Finally, there are ongoing investigations and research interests in the alternative method of BE treatment. Endoscopic cryotherapy for example, using various types of cryogen, has garnered special interests for treating
those who do not respond to existing RFA treatment. In addition, with increasing recognition of ESD as viable treatment option by the western gastroenterologists for EAC, the consensus for finding an ideal niche for such technically demanding option needs to be clarified within the treatment algorithm of BE.

In conclusion, BE is pre-malignant condition with increasing incidence and prevalence in the western population, particularly among those with Caucasian ethnic background. Considering environmental factors also contributing to development and progressions of BE, it is doubtful that BE will remain as the disease limited to certain ethnic background only in future. It is imperative for practicing gastroenterologists to be well informed of existing guidelines for surveillance and treatment of BE.

References

5. The role of endoscopy in Barrett’s esophagus and other premalignant conditions of the esophagus Gastrointest Endosc 2012;76:1087-1094.