Early Barrett’s Esophageal Cancer: Can Endoscopic Be the First Line of Therapy?

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Introduction

The selection of therapy for early Barrett’s related esophageal adenocarcinoma depends heavily on three major factors. The first is expertise of the performing physician. The ability to treat early esophageal cancer depends on the commitment of the physician performing the procedure. Experts tend to have a greater understanding of the disease process and are likely to have improved results. The second is the commitment of the patient. Patients must realize that despite best efforts, there is approximately a 2% risk of metastasis despite being early staged disease. In addition, even after ablative therapy. Patients must also be willing to carefully follow with their physicians as there is a substantial risk of recurrence after therapy of at least 18%. Patients at risk of non-compliance may well benefit from alternative therapies. The other critical factor is the lesion itself. Invasion depth is commonly associated with increased risk of metastasis and this must be ascertained with absolutely certainty. Once these factors can be ensured endoscopic resection with ablation can be carried out.

Expertise

One of the least considered is expertise. It must be kept in mind that alternative therapies such as esophagectomy for early esophageal cancer have mortality rates that are less than 1% among expert centers and multiple centers report no surgical related mortality. However, this is a bias selection of experts and if one examines the US medicare database of all esophagectomy, mortality rates in centers that perform less than 5 a year ranges up to 18%. It is unfortunate, but most esophagectomies in the USA are actually performed in low volume centers. It is also important to consider the expertise of the endoscopist that is attempting therapy. It is clear that less expert endoscopist have less ideal results than experienced endoscopists but the differences in relationship to esophageal adenocarcinoma are unclear. It is likely that there will be a patient volume effect but it is unclear how significant this will be.

Patient Compliance

As mentioned above, compliance is critical after radiofrequency ablation or mucosal resection. It has been
shown that residual Barrett’s mucosa will increase the risk of recurrence of disease. Therefore, patients must be willing to undergo ablation of residual Barrett’s mucosa after resection of the cancer. In addition, due to the high rate of recurrence of disease, patients need to be kept in surveillance programs after ablation to ensure that any recurrences can be identified quickly and eliminated.

Evaluation of the Lesion

The adenocarcinoma within Barrett’s esophagus needs to be carefully evaluated. Although endoscopic ultrasound with a high frequency (20 MHz) probes is typically used, it is difficult to perform water filling of the esophagus in these elderly patients because of the risk of aspiration. In addition, even in expert hands, there is misidentification of the depth of invasion in substantial number of cases with accuracy of only 85%. Most experts feel that mucosal resection is the best method to assess the depth of the lesion. In addition, other factors such as lymphovascular invasion or tumor grade that have been suggested to increase risk of metastasis can only be assessed by histology. The lateral extent of the lesion is often assessed using narrow band imaging but newer modalities have been used including confocal laser endomicroscopy and endocytoscopy. These methods are promising with studies still remaining to be completed.

Technique

Treating lesions is primarily done with mucosal resection techniques. Once the lesion is identified by narrow band imaging, the area surrounding the lesion is marked with cautery and the lesion is removed with cap or band ligation methods of endoscopic mucosal resection. However, for lesions greater than 1.5 centimeter in size, data based on gastric resections seem to suggest that endoscopic submucosal dissection is indicated. This is based on data from gastric cancer resections and has not actually been proven in esophageal adenocarcinoma and is based on the endpoint of being able to perform an en bloc resection. This is the oncological procedure of choice but it is unclear in the setting of the lack of expertise in the United States whether this recommendation from Asia will prove to be practical.

References

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