Endoscopic Therapy to Bleeding Peptic Ulcers – Injection, Thermocoagulation and Coagulation or a Combination Treatment

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Peptic ulcer is the most common cause for acute upper gastrointestinal bleeding. Endoscopic therapy improves outcomes in patients with active bleeding or major stigmata of bleeding. Modalities for endoscopic treatment can be broadly categorized into thermal, injection, mechanical and a combination of them. Many randomized controlled clinical trials and their meta-analyses have been published to evaluate 1) as a mono-therapy, which technique is superior to others in rate of hemostasis 2) whether a combination of treatment would be better than a single treatment 3) indications for treatment with reference to stigmata of bleeding 4) the role of second-look endoscopy with re-treatment in the presence of major stigmata of bleeding. When compared to pharmacotherapy alone, any endoscopic therapy would significantly decrease recurrent bleeding and need for further intervention.1,2 Epinephrine injection works by volume tamponade on the vessel. A second modality is therefore required to induce vessel thrombosis. The addition of a second modality would confer a reduction not only in recurrent bleeding and further intervention but also mortality in one pooled analysis.3,4 When combined epinephrine injection and a second mortality are compared to mono-therapy of either hemoclips or thermal coagulation, no significant difference in outcomes was seen. We performed a meta-analysis that included trials that compared hemoclips to thermal coagulation.5 The use of clips or thermal coagulation should not be mutually exclusive to each other. The rate of definitive hemostasis following either treatment was identical. The application of clips in tangential or retroflexed position, or on hard fibrotic ulcer bases can be challenging. In such instances, thermal coagulation can be considered. To summarize the literature, as a single treatment, clips and thermal coagulation are similar in their efficacy and both are superior to injection alone. Pre-injection of epinephrine in many instances allows a clear view of the bleeding vessel and enables a precise application of second treatment. Endoscopic therapy is indicated in ulcers with active bleeding and a non-bleeding visible vessel (or a protuberant discoloration). Its role in ulcers with clots is somewhat controversial. The definition of an adherent clot varies and is dependent on the vigor in endoscopic washing. Conceptually a clot should be in contiguity with an underlying vessel. A pooled analysis of randomized controlled trials would suggest that a clot should be elevated in search of a vessel at the ulcer floor.6 If present, the vessel should be treated. Routine second look endoscopy should not be performed. Most clinical trials that examined the role of routine look endoscopy used epinephrine injection alone. The merit of second look endoscopy cannot be assessed from these trials in the context of contemporary practice that includes combination en-
Endoscopic therapy and infusion using proton pump inhibitors. Second look endoscopy can however inform management in patients with subtle signs of recurrent bleeding. In selected high risk patients, second look endoscopy may improve outcomes. In those with overt clinical bleeding, it replaces surgery in a high proportion of patients.

References