Electrohemostasis with Endoscopic Electrocoagulation In Upper Gastrointestinal Bleed

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Abstract

Fifty patients who presented with upper gastrointestinal bleed were taken up for electrohemostasis with endoscopic electrocoagulation. Hemostasis was achieved in 32 patients at the first sitting, and in a second session in two of eight patients in whom it was attempted. No complications were encountered. EEC is an effective and safe method of achieving hemostasis in upper gastrointestinal bleed due to varied gastrointestinal lesions, and may help cut down the number of patients subjected to emergency surgery.

Key words: Endoscopic electrocoagulation, gastrointestinal bleed.

Introduction

Emergency surgery in acute massive upper gastrointestinal (UGI) bleed is associated with high mortality.1 Youmans2 in 1970 first successfully performed endoscopic electrocoagulation (EEC) by monopolar electrocoagulation in such patients. Protell3 in 1978 demonstrated that bipolar EEC was a safe procedure. The present study was undertaken to find out if EEC could form an alternative to emergency surgery in controlling upper GI bleed, and which type of UGI endoscopic bleeding lesions are most benefited by EEC.

Material and Methods

The study was done on 50 patients (42 males, 8 females, aged 16–62 years) with active upper GI bleed, who belonged to one of the following groups: (i) unstable vital signs after three units of whole blood in the first 24 hours, with systolic pressures <90 mm Hg and hemoglobin < 8 g/dl (n = 37); (ii) recurrent hemorrhage 24 hours after admission, requiring 1 litre or more of whole blood per day (n = 11); and (iii) patients considered bad risk for surgery because of associated disease, but continued to bleed (n = 2).

After quick evaluation of vital signs, baseline investigations and blood transfusion, a polyethylene nasogastric tube was put in and the stomach cleared of its contents. Emergency UGI endoscopy was performed with an Olympus GIF-Q fibroscope. The lesions were identified and sources of bleeding defined. EEC was done with diathermy power supply knob producing an electrical current in the frequency of 5 MHz, and electrocoagulation continued till the bleeding stopped. After the procedure was over, patients were maintained on continuous ice water irrigation and their vital signs recorded for the next 24 hours. The tube was removed as soon as the aspirate became clear.

Results

Of the 50 patients studied, 42 presented with the first episode of bleed, while 8 had a previous history of one or two bleeds; two patients had undergone previous surgery for duodenal ulcer disease. Three patients were in shock on admission. The hemoglobin concentration on admission ranged between 5 g/dl and 12 g/dl. The procedure was performed within 24 hours of admission in two patients, between 24 and 48 hours in twenty-two, between 48 and 72 hours in eighteen, and after 72 hours in three. All were actively bleeding at the time of EEC. The bleeding source was identified by stigmata of active hemorrhage, niz arterial jet, ooze hemorrhage or oozing beneath an overlying clot. Recent hemorrhage was indicated by black overlying clot adherent to an ulcer base or visible vessel syndrome.

Lesions seen on endoscopy which were actively bleeding and were subjected to EEC were lesions in brackets were seen simultaneously but were not bleeding at the time of endoscopy and were not subjected to EEC: chronic duodenal ulcer-12, chronic duodenal ulcer (with erosive duodenitis)-4, erosive duodenitis-1, chronic duodenal ulcer (with erosive duodenitis)-4, erosive gastritis-9, benign gastric ulcer-3, malignant gastric ulcer-1, gastric polyp-1, gastric ulcer with erosive gastritis-2, benign gastric ulcer (with duodenal ulcer)-4, gastric ulcer with visible vessel syndrome-3, gastric and duodenal erosions-1, and duodenal ulcer with erosive gastritis-2.

In 18 patients hemostasis could not be achieved at the first endoscopy. Of these 8 were subjected to a second EEC; these included erosive gastritis-3, gastric ulcer-1, gastric ulcer with erosive gastritis-1, and duodenal ulcer-3. Effective hemostasis was achieved in two; the other six were subjected to surgery. Of the remaining 10 patients, 5 were managed conservatively, four were subjected to surgery and one died.

Discussion

The success rate achieved with EEC in upper GI bleed compares well with other reports,4,5,6 except for...
a relatively lower control rate in erosive bleedings. We conclude that EEC could provide an effective alternative to surgery in bleeding gastric and duodenal lesions.

References