



Original Article

A prospective randomised comparative study of endoscopic band ligation versus injection sclerotherapy of bleeding internal haemorrhoids in patients with liver cirrhosis

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ABSTRACT

Background and study aims: Bleeding internal haemorrhoids are common and used to be treated surgically with too many complications. Endoscopic therapy is trying to take the lead. Sclerotherapy and rubber band ligation are the candidates to replace surgical therapy especially in patients with liver cirrhosis. The aim of this study was to compare endoscopic injection sclerotherapy (EIS) to endoscopic rubber band ligation (EBL) regarding effectiveness and complications in the treatment of bleeding internal haemorrhoids in Egyptian patients with liver cirrhosis.

Patients and methods: One hundred and twenty adult patients with liver cirrhosis and bleeding internal haemorrhoids were randomised into two equal groups; the first treated with EBL using Saeed multiband ligator, and the second with EIS using either ethanolamine oleate 5% or N-butyl cyanoacrylate. All groups were matched as regards age, sex, Child score and pre-procedure Doppler values. Patients were followed up clinically and with abdominal ultrasound/Doppler for 6 months. Endoscopic and endosonography/Doppler was done before and one month after the procedure. Pre and post-procedure data were recorded and analysed.

Results: Both techniques were highly effective in the control of bleeding from internal haemorrhoids with a low rebleeding [10% in the EBL group and 13.33% in the EIS group] and recurrence [20% in the EBL group 20% in the EIS group] rates. Child score had a positive correlation with rebleeding and recurrence in EIS group only.

Pain score and need for analgesia were significantly higher while patient satisfaction was significantly lower in EIS compared to EBL [$p < 0.05$]. No significant difference between ethanolamine and cyanoacrylate subgroups was found [$p > 0.05$].

Conclusions: Both EBL and EIS were effective in the treatment of bleeding internal haemorrhoids in patients with liver cirrhosis. EBL had significantly less pain and higher patient satisfaction than EIS. EBL was also safer in patients with advanced cirrhosis.

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Introduction

Symptomatic internal haemorrhoids have an increasing incidence in people over the age of 45 years, and in women especially with pregnancy [1]. Internal haemorrhoids were reported to be common in patients with portal hypertension with and without cirrhosis (prevalence ranging between 21% and 36%) [2].

Cirrhotic patients have higher postoperative morbidity rates which correlate to Child score especially in emergent situations. This increased risk may be related to anaesthesia, operative stress,

bleeding tendency or postoperative sepsis due to hepatic and other organ dysfunction [3].

The treatment of internal haemorrhoids can be grouped into conservative (diet and vascular tonification); non-excisional (sclerotherapy, cryotherapy, ligation, photocoagulation, diathermy and electrocoagulation) and surgical methods (haemorrhoidectomy) [4].

EBL was found to be effective and safe in the treatment of bleeding internal haemorrhoids for patients with liver cirrhosis and portal hypertension [5].

The aim of this study was to compare endoscopic injection sclerotherapy (EIS) to endoscopic rubber band ligation (EBL) regarding effectiveness and complications in the treatment of bleeding internal haemorrhoids in Egyptian patients with liver cirrhosis.

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Patients and methods

All cirrhotic patients suffering from bleeding per rectum admitted to the Department of Tropical Medicine and Infectious Diseases, Tanta University Hospital, between Jan 2009 and Dec 2010 were examined using Olympus GIF-p140 after colonic preparation with Minalax 10 tablets 12 h before endoscopy followed by 3 evacuation bland water enemas every 4 h. A total of 120 patients with bleeding internal haemorrhoids were enrolled in this prospective comparative study. They were randomised into 2 equal groups; the first treated with endoscopic band ligation using Saeed multi-band ligator, and the second with endoscopic injection sclerotherapy. The sclerotherapy group was further divided into two equal groups to receive either ethanolamine oleate 5% or *N*-butyl cyanoacrylate. Simple randomisation has been done using a computer generated list. Patients with thrombosed haemorrhoids, anal fistula or peri-anal abscess were excluded. Institutional ethics committee approval and informed consent from every patient were obtained before performing endoscopy, and treatment decision was taken in the same set of first colonoscopic examination. EBL was done in retroflex view with sparing of the dentate line. An average of 3 bands (range 2–4) has been used for complete obliteration of haemorrhoids (Fig. 1). Injection sclerotherapy was performed in forward view while withdrawing the endoscope, but rarely in the retroflex view, *intra* and *para*-haemorrhoidal just above the dentate line (Fig. 2).

All cases were treated in an outpatient setting without anaesthesia. Follow up of clinical, laboratory and endoscopic findings before and after the procedure was recorded. All adverse events were documented. Post procedure treatment included oral lactulose and analgesic administration in addition to antibiotics if fever occurred. After the procedure, patients were asked to complete a questionnaire to evaluate their satisfaction as yes or no. Pain as assessed using a visual analogue scale from 0 (no pain at all) to 10 (the worst pain the patient had ever experienced), and their need for analgesia. For the evaluation of haemorrhoidal obliteration, follow up after one month was done using endosonography (Figs. 3 and 4) and flexible sigmoidoscopy (Fig. 5) with a single evacuation enema (enemax) just before the procedure.

In all cases, recurrence, rebleeding, and other complications were reported. Successful treatment was defined as symptom free 6 weeks post procedure. Rebleeding was defined as anal bleeding with two separate bowel movements or massive bleeding that required further treatment after one month of procedure. Recurrence was defined as recurrent symptoms that were troublesome to the



Figure 1. Endoscopic band ligation of grade II internal haemorrhoids.



Figure 2. Endoscopic injection sclerotherapy of grade III internal haemorrhoids.

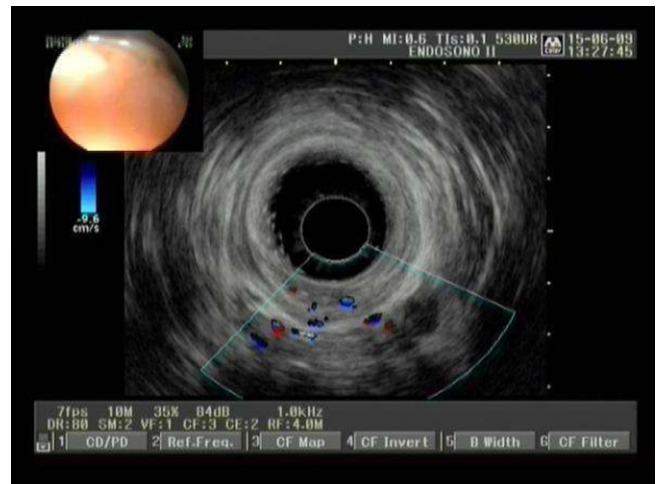


Figure 3. Endosonographic Doppler study of internal hemorrhoids before treatment.



Figure 4. Endosonographic Doppler study of internal haemorrhoids after band ligation.

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