



Hemostatic clips' retention in the upper GI tract, A report of two cases with prolonged clip retention

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INTRODUCTION

The metallic endoscopic clip was first described for hemostasis in 1975. ^[1] Endoscopic clips are now frequently used in non-variceal upper gastrointestinal bleeding, and have many different indications. ^[1] Most clips are not magnetic resonance imaging [MRI]-safe, and are contraindications to MRI. ^[2] The hemostatic clips usually spontaneously dislodge within 1 to 3 weeks after placement, but some case reports have shown that they can be retained for up to 2 years. ^[5] Hemostatic clips retention until ulcers healed could promote permanent endoscopic hemostasis of both severe ulcer hemorrhage and very severe hemorrhage related to inpatient ulcer bleeding. ^[3] Given the short retention time, most physicians rarely advise their patients to abstain from diagnostic procedures that would be contraindicated with a hemostatic clips placed, such as magnetic resonance imaging. ^[5] Two cases will be reported for retained clips more than 2 years with a review about risks for clip retaining, MRI compatibility, and retrieving retained clips.


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TWO CASE REPORTS:

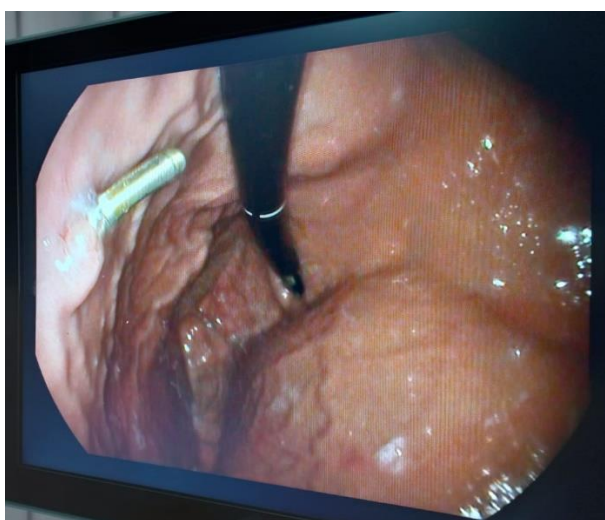
The first case is a 78-year-old male previously healthy, on January 2018, patient had presented to another facility with massive upper GI bleeding, where he received 3 units of Packet RBC, upper gastroscopy showed bleeding fundal dieulafoy lesion, a metallic clip was

applied with good hemostasis. Patient recovered with no complications. In February 2022, patient presented with new onset dysphagia to solids then liquids with 4 kg weight loss in last 2 months, patient admitted for gastroscopy that showed esophageal candidiasis, a 2cm hiatal hernia, and a retained clip in the fundus [placed more than 4 years ago]



The second is a 35 year old female patient presented for Intermittent reflux increased with acidic and spicy food with 14 kg weight loss last 3 months, EGD done on 23/2 /2021 showed actively bleeding small fundal ulcer where

metallic clip was inserted, gastric biopsy were negative for malignancy and positive for H.Pylori , in 24/3 /2022 patient presented with nausea , follow up EGD done showed retained clips .



DISCUSSION:

Hemostatic clips are used in bleeding secondary to submucosal lesions, diverticular bleeding, Mallory-Weiss tear, bleeding Dieulafoy's lesions, and post polypectomy

bleeding. It is also very useful in closing perforations and fistulas, serving as a radiopaque marker and as a tool to fix accessories ^[6]

Most used clips nowadays are from Boston Scientific [RC], Olympus [QC], and Wilson Cook [TC].^[3]

Some of the features that have made endoscopic hemostatic clips more easy to use include the ability to rotate the clip for better orientation [Boston Scientific and Olympus], the grasp-release-regrasp feature before deployment [Boston Scientific], and larger hemoclips for deeper penetration into the tissue clipped [Boston Scientific and the Olympus QC Long]^[3].

Initially, hemostatic clips had a problem of low retention rate, but newer clips have improved retention times, and they usually detach within 2 weeks, but some case reports showed much more delayed retention, with the longest duration was 1,383 days, which is over 3 years^[5].

Several factors were studied as cause for longer duration of retaining clips; depending on clip location: the median clip retention time in the gastric body was 4 weeks, but median clip retention time for both gastric fundus and gastric antrum was 2 weeks.^[1] Another study on 199 patient underwent ESD with clips insertion, clip retention rates was highest at the angle [40.6%] and the lowest at the antrum [19.6%]^[4]. Also there was different in retention rate depending on type of clips, with [RC] Boston scientific having higher retention rate, and thus, [RC] clip should be preferred when long-term attachment of clips is necessary, as for tumor marking for future radiation therapy and when anchoring feeding tubes or self-expanding stents^[3,7].

Hemostatic clips retention until ulcer healing could promote permanent endoscopic hemostasis of both severe ulcer hemorrhage [that started as an outpatient] and very severe hemorrhage related to inpatient ulcer bleeding. Also, retained hemoclips in the bases of chronic ulcers did not increase the healing time, in fact, it shortens the healing time.^[3] No complications, adverse events, or nutritional consequences occurred because of either the passage of clips or long-term retention.^[1]

A retained hemostatic clips can limit diagnostic imaging procedures, such as magnetic resonance imaging [MRI]. Since most hemoclips are not considered MRI-compatible.^[2,4,5] Given the known short retention time, most physicians do not advise their patients to abstain from diagnostic procedures such as MRI^[4].

Retrieving retained hemostatic clips, to allow MR related diagnostics, was relatively safe, and it should be performed to prevent hazards from incidental MRI. However, caution is still needed in patients with a high risk of bleeding^[5]

CONCLUSION:

Hemoclips could be retained for more than 2 years, with most hemoclips used are MRI incompatible. Although no enough data was published regarding safety of leaving retained clips in their place, no adverse event yet published regarding prolonged retained clips. Thus, physicians still have the two options, either alert their patients to abstain MR dependent diagnostics, or retrieve the retained clips which was shown to be safe in previous studies.

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