

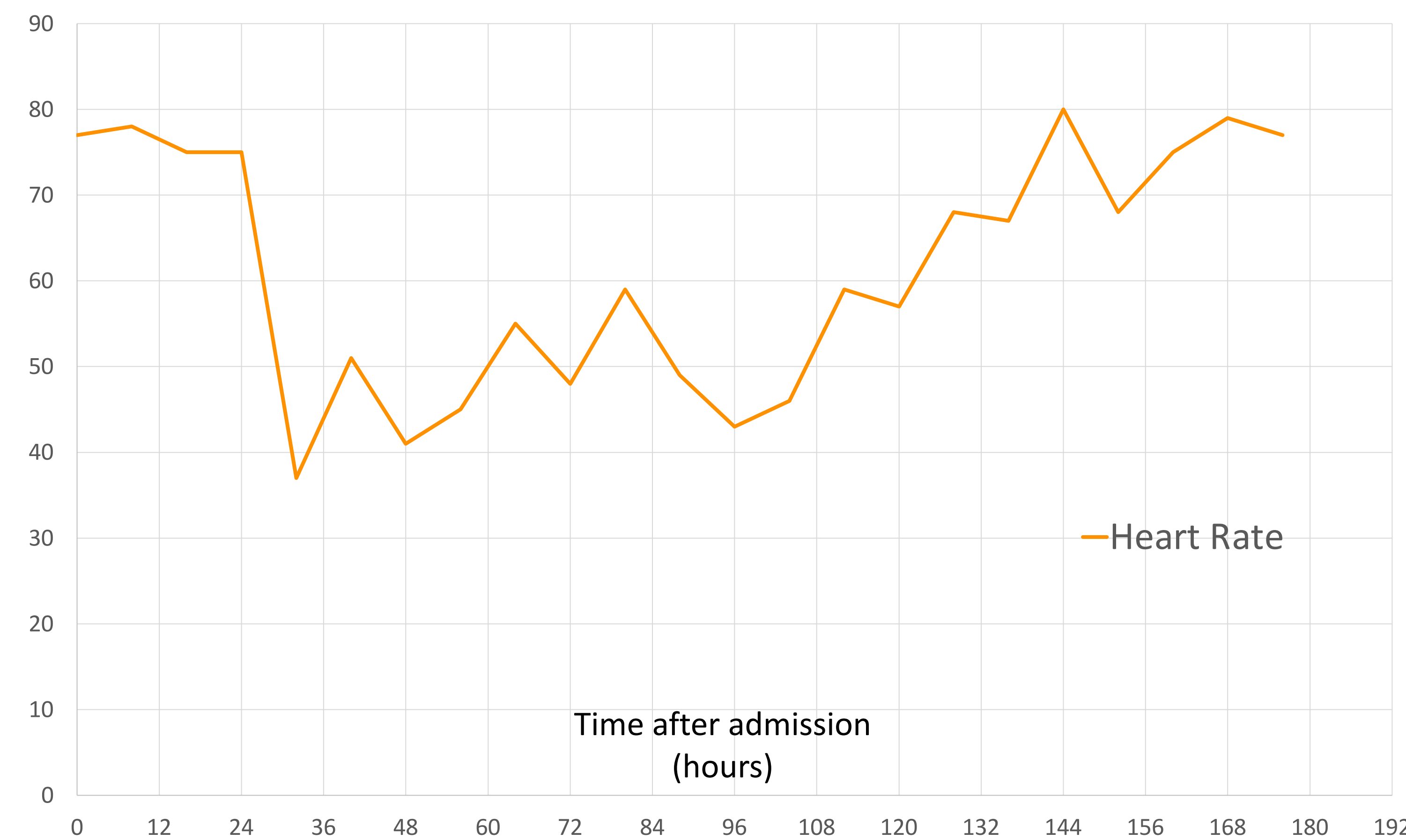
## Introduction

Esophageal variceal bleeding is described as the most common etiology of bleeding out of all patients presenting with upper gastrointestinal tract hemorrhage. (1)

Endoscopic variceal ligation is one of the preferred methods for treating esophageal variceal bleeds. (1)

Thus far in the literature, bradycardia is not a well-documented complication of endoscopic band ligation.

Here-in we present a unique case of endoscopic band ligation induced marked bradycardia.



**Table 1:** Above table demonstrates patients heart rate over time in hours post admission to the hospital. Patient underwent endoscopy at ~18 hr after admission to the hospital

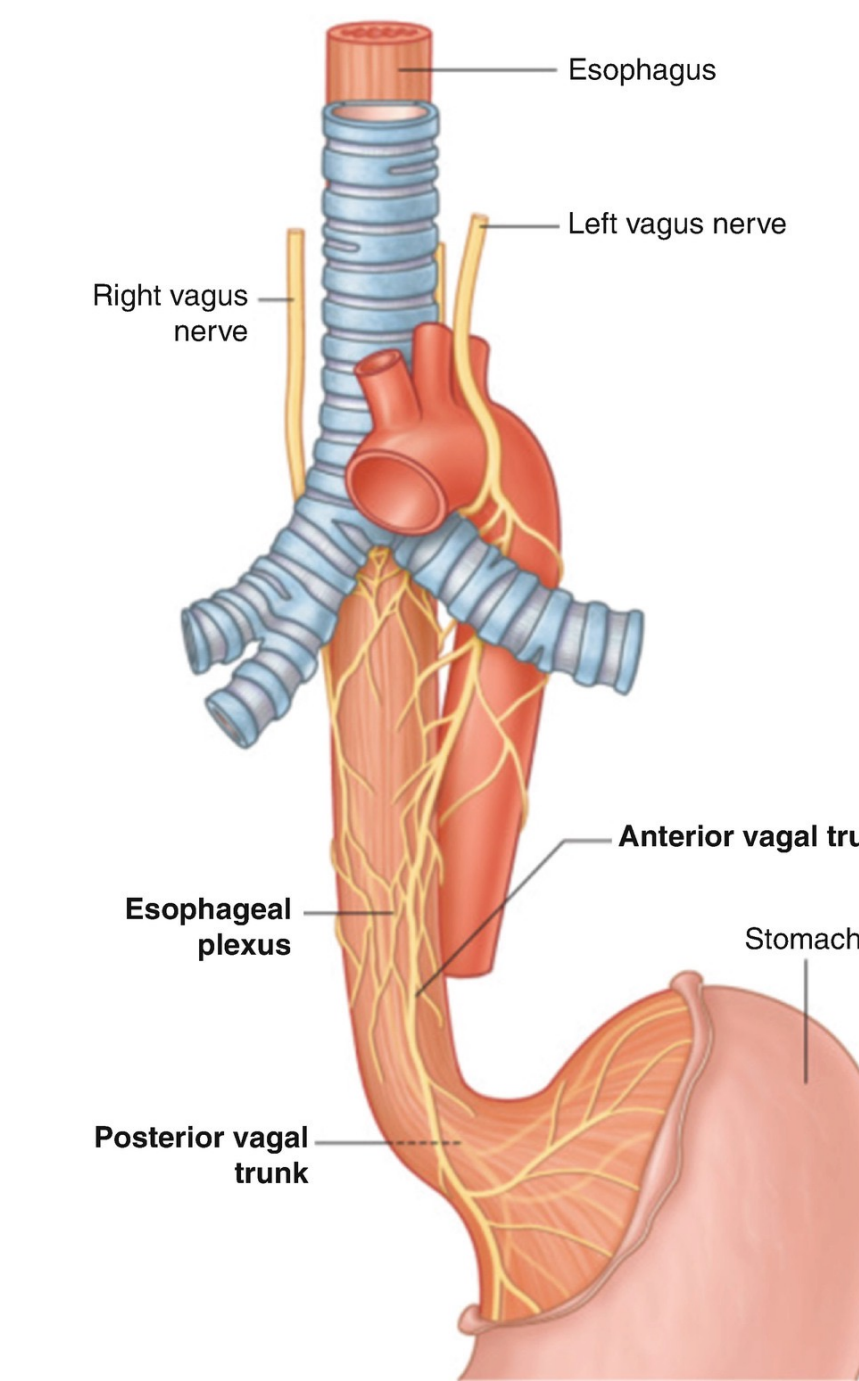
## Case Description

A 42-year-old male with a history of alcohol cirrhosis presented to our facility after having three episodes of frank hematochezia. At presentation, blood pressure was 84/49mmhg and heart rate was 94 beats per minute. Hemoglobin was 5.2 g per deciliter and rectal exam was notable for melanotic stool. Two units of packed RBCs were transfused, hemodynamic resuscitation was achieved, and an octreotide drip was started.

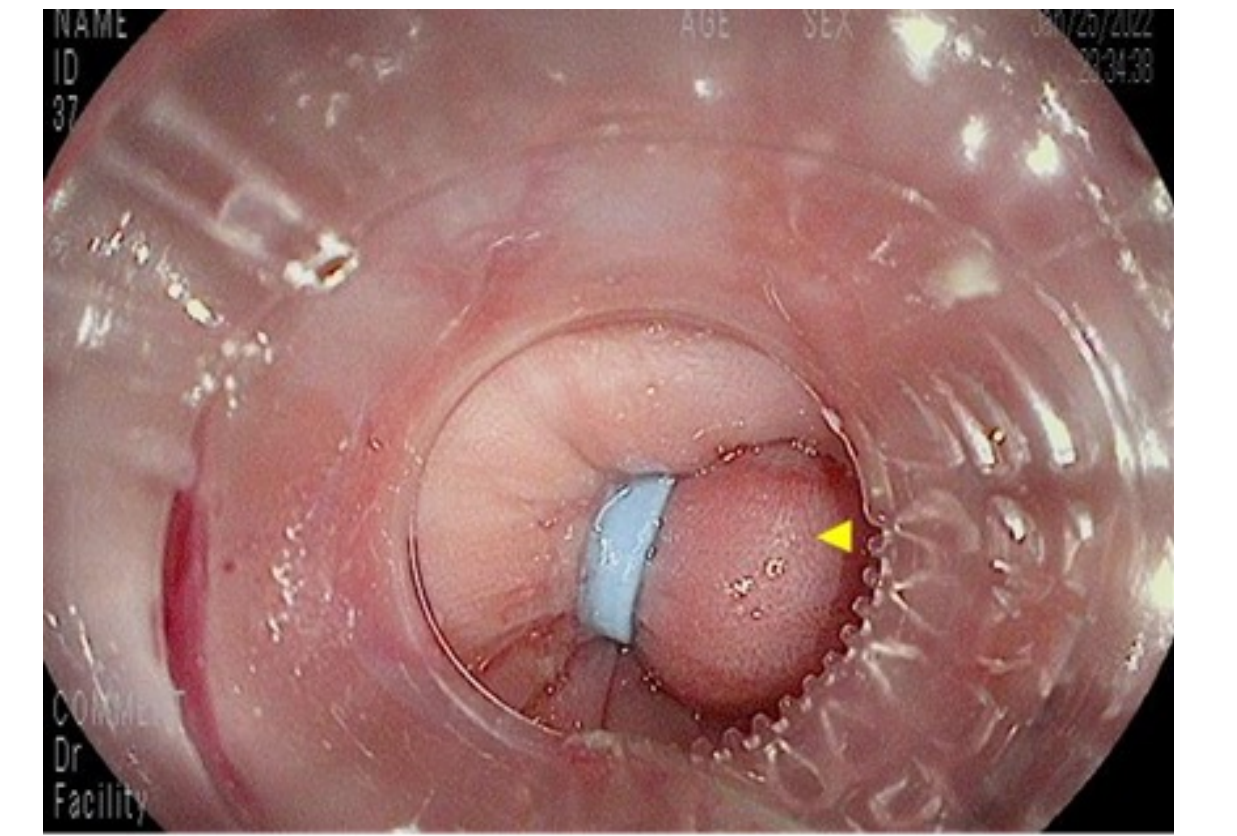
Overnight, the patient’s heart rate remained in a range of 80’s to 90’s beats per minute. Upon endoscopic examination the following day, the patient was found to have four columns of grade III varices in the mid and distal esophagus, at the gastroesophageal junction, and the gastric cardia. Three bands were placed and the patient was transfused with two additional units of packed RBCs intraoperatively. The patient was returned to ICU with no immediate complications. During the procedure, the patient's heart rate remained stable in a range of 80 to 100 beats per minute.

Post-operatively in the ICU, the patient’s heart rate slowed to a range of 32 to 40 beats per minute. ECG confirmed sinus bradycardia overnight and the octreotide was subsequently decreased to 25 micrograms per hour, eventually being discontinued due to persistent bradycardia. Within 24 hours the patient’s heart rate began to rise and within 72 hours, the patient’s heart rate equilibrated to a range of 60 to 80 beats per minute.

The patient was successfully discharged in normal sinus rhythm and followed up in the outpatient setting.



**Figure 1:** Course of vagus nerve in relation to the esophagus (2)



**9** Lower Third of the Esophagus : Varices

**Image 1:** Grade III esophageal varix with band in place in lower esophagus near GE junction

## Discussion

Deglutition syncope is a type of syncope which is proposed to be induced by vagal nerve activation during the process of swallowing and has also been described following variceal band ligation. (3)

Due to the entry of the vagus nerve into the abdomen via the esophageal hiatus, vagus nerve stimulation via band ligation may be a mechanism by which bradycardia is induced in patients undergoing endoscopic variceal ligation.

In this case report we suggest that the location of variceal band ligation, specifically near the GE junction, may cause vagally induced bradycardia.

## Contact

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## References

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