

Urea / Creatinine Ratio Predictor of the High or Low Origin of Melena: Prospective Study

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INTRODUCTION

In patients with Gastrointestinal (GI) bleeding, the source of bleeding is uncertain in the absence of hematemesis. It is very interesting to find easily accessible and non-invasive methods to differentiate various sources of GI bleeding before performing a fibroscopy and colonoscopy.

When patients present with melaena, the first problem faced by the clinician is identifying the site of bleeding. While most patients, if not all, presenting with haematemesis have an upper gastrointestinal bleed, the same is not true of patients with melaena. This is because the colour of blood in stool depends on how long the blood remains in the gastrointestinal tract and not on the site of bleeding [1]. The plasma urea:creatinine ratio (U:C ratio) has been reported to be significantly higher in patients with upper gastrointestinal bleeding [1]. The purpose of the present study was to prospectively evaluate this hypothesis and a U:C ratio of 36 was used as the discriminatory level [2-8].

KEYWORDS

Gastrointestinal hemorrhage, Melena, Urea, Creatinine

GOAL

The present study was designed to assess the performance characteristics of screening for the ratio of blood urea to Creatinine to predict the high or low origin of isolated melena without hematemesis.

METHODS

Prospective study carried out on patients with acute gastrointestinal bleeding hospitalized in the gastroenterology department, CHU Mohammed VI of Marrakech, between January 2017 and December 2019. Patients who presented melena without hematemesis were included in the study. The Urea / Creatinine plasmatic ratio was calculated for all patients and its accuracy in differentiating upper and lower gastrointestinal bleeding, confirmed by endoscopy or colonoscopy, was evaluated.

Patients with a history of confirmed renal failure, those with signs of portal hypertension, as well as patients with upper and lower gastrointestinal bleeding were excluded from the study.

RESULTS

A total of 300 patients had melena without hematemesis with an average age of 48.49 ± 22 and a sex ratio of 1.5 (60% of men). Based on the

results of endoscopy and colonoscopy, 140 (46.6%) cases of bleeding were related to the upper digestive system and 100 (33.3%) cases were related to the lower digestive system.

The Urea / Creatinine plasmatic ratio was significantly higher in those with lower gastrointestinal bleeding (75.90 ± 15.16 versus 38.16 ± 11.77 ; $p = 0.001$).

A ratio below 50 was predictive of the high origin of the melena and a ratio greater than 60 was predictor of the low origin in 90% of the cases.

CONCLUSION

This easy-to-use, non-invasive report helps guide the clinician toward the high or low origin of the melena without hematemesis.

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