Small Bowel Angioectasias Rebleeding and the identification of higher risk patients

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Background: Small Bowel Capsule Endoscopy (SBCE) is the gold standard in Mid-gastrointestinal bleeding (MGIB). Angioectasias are the most common vascular anomalies in the GI tract and have been reported as the source of MGIB in up to 80% of patients. Considering their frequency, their usual intermittent bleeding nature and their risk of rebleeding, the aim of this study was to identify some characteristics and possible predictors of rebleeding in the presence of these lesions.

Methods: Retrospective study, which included consecutive SBCE with angioectasias between 2008 and 2018 with a minimum follow up of 12 months. Rebleeding was defined when a drop of hemoglobin$\geq$ 2g/dl (occult) was observed and/or in the presence of hematoquezia or melenas (overt) with negative esophagogastroduodenoscopy and ileocolonoscopy. Data were collected from medical records: patients' age, gender and comorbidities and use of antiplatelets and/or anticoagulants. Angioectasias were classified by number, location, size and type according to Yano-Yamamoto Classification. Univariate and multivariable statistical analyses were performed to identify possible predictors of rebleeding.

Results: From a total **of** 630 patients submitted to SBCE for suspected small bowel bleeding, 129 with angioectasias were included, 59.7% female, with median age of 72 (19-91) years and a mean follow up of 44.0±31.9 months. 88 patients (68.2%) performed SBCE for occult and 41 (31.8%) for overt gastrointestinal bleeding. In 93.8% the SBCE reach the cecum. In 32.6% (n=42) of the patients at least one episode of rebleeding was documented.

In univariate analysis, patients presenting with rebleeding were older (74.2 vs 67.9 years; p=0.021), and were more frequently diagnosed with chronic kidney disease (44.4% vs 26.2%; p<0.035) and heart failure (HF) (51.9%vs19.5%;p<0.001). Regarding the characteristics of angioectasias, patients that rebled had more frequently angioectasias of larger size (>5mm) (69%vs27.6%;p<0.001). In multivariate analysis we identified the presence of HF (OR 3.3; IC95% 1.3-8.6;p=0.014), and the size of the angioectasias (OR 4.9; IC95% 2.1-11.4; p<0.001) as independent predictor factors for risk of rebleeding.

Conclusion: Heart failure and angioectasias with size superior to 5mm are the independent predictor factors of rebleeding in a population with angioectasias diagnosed by SBCE.