Gastroenterol Hepatol. 2016;39(8):497–499

Gastroenterología y Hepatología

www.elsevier.es/gastroenterologia

EDITORIAL

Nasogastric intubation in patients with upper gastrointestinal bleeding?☆

¿Sonda nasogástrica en el paciente con hemorragia digestiva alta?

Two of the main indications for nasogastric (NG) intubation are the diagnosis and clinical management of patients with upper gastrointestinal (GI) bleeding. NG intubation—together with the placement of 2 peripheral catheters, sampling for laboratory tests or blood supply—is standard procedure in the initial management of patients treated in the emergency department (ED) for an upper GI bleed.[1]

Nevertheless, based on current scientific evidence, the need for NG tube placement is controversial.[1–3] In fact, the NG tube provides little information to guide the management of upper GI bleeding in EDs, and is not without complications.[4–6] NG intubation has come to be considered as an element of modern torture by some authors, who question its indications.[7] The following are some of the arguments against the use of NG intubation.

From a diagnostic point of view, placement of an NG tube will not help to clarify any doubts the clinician may have. Firstly, in the case of active bleeding, the NG tube can detect an upper GI bleed that originates in the stomach, but not necessarily one that originates in the duodenum (the main location of upper GI bleeds). For this reason, the overall sensitivity for identifying the origin of the bleed is low (42%).[8] Moreover, if the patient has presented haematemesis or malaenic stool, the diagnosis of upper GI bleeding can already be made and, therefore, NG intubation does not provide any further information. There is no evidence either that persistence of a bloody aspirate is more reliable than haemodynamic monitoring for detecting a severe bleed. Finally, performing upper GI endoscopy within the first 24 h is a quality indicator in the management of upper GI bleeding.[1,3,9] Regardless of the aspirate from the NG tube, early GI endoscopy must be performed.

From a clinical management point of view, NG tube placement rarely changes the *management* of the patient with upper GI bleeding. Firstly, as far back as 1987, Richard Leather stated that iced gastric lavage was a waste of time, and that this practice should be abandoned until new studies could demonstrate its efficacy and safety.[10] Secondly, NG tube placement is justified as a means of identifying active bleeding and, therefore, lesions at high risk of recurrence (Forrest Ia-IIb). As mentioned above, these patients require vigorous haemodynamic stabilisation measures and early GI endoscopy within 4–6 h, so NG intubation does not provide any additional information.[1,3] Moreover, the sensitivity and specificity of the NG aspirate with blood or coffee grounds in predicting the presence of high-risk lesions are, at most, moderate (80% and 76%, respectively),[11,12] and up to 27% of upper GI bleeds with an active lesion can go unnoticed despite gastric lavage.[13] Finally, the presence in the NG tube aspirate of blood mixed with clots or coffee grounds has not been shown to be a predictor of 30-day mortality.[14]

Other tools can be used to manage these patients, and particularly to assess the impact and severity of the upper GI bleed. These include physical examination, determination of vital signs (heart rate and blood pressure), analytical variables (haematocrit) or response to treatment administered in the ED. Furthermore, the severity of the upper GI bleed can be measured using scales based on clinical variables, such as the Glasgow-Blatchford score. This screening tool does not include NG tube placement,[15] and a score of 0 points can identify patients who will not require urgent action.[16]

From an endoscopic point of view, it has been argued that lavage through the NG tube could eliminate the haematic contents from the stomach and facilitate endoscopy. Nevertheless, Lee and Kearney[17] demonstrated in a clinical trial that gastric lavage with 15 L of saline before endoscopy did not improve the technique in terms of identifying the origin of the bleeding, or achieving haemostasis. Blood in itself is a potent prokinetic agent. This, together with the

☆ Please cite this article as: Gené E, Calvet X. ¿Sonda nasogástrica en el paciente con hemorragia digestiva alta? Gastroenterol Hepatol. 2016. 2016;39:497–499.

tendency of most upper GI bleeds to cease spontaneously, causes the stomach to empty rapidly, and enables endoscopy to be performed effectively. Administration of prokinetics is not routinely recommended.[1] Nevertheless, in massive GI bleeds, administration of a single 250 mg intravenous dose of erythromycin between 30 and 120 min before endoscopy improves visibility, reduces the need for a second endoscopy, decreases transfusion requirements and reduces the mean hospital stay.[18–23]

From the patient's point of view, it is important to note that between 15% and 20% of patients will refuse NG intubation, mainly because it is a painful procedure. Singer et al. evaluated the 15 most common procedures in EDs. NG tube placement was, in the patients' opinion, the most painful (visual analogue scale, 57 mm), above other procedures, such as debridement of a sacral abscess, reduction of a Colles fracture or insertion of a bladder catheter.[24] Furthermore, NG intubation has been associated with a considerable number of complications (epistaxis, pneumothorax or perforation).[4,5]

Finally, at the American Gastroenterological Association conference in May 2014, Rockey et al. presented the results of a non-inferiority clinical trial comparing NG tube placement with no NG tube placement in patients with suspected upper GI bleeding.[6] A total of 280 patients were included (140 in each arm). The main lesions causing the upper GI bleed were gastroduodenal ulcer (30%), oesophageal varices (17%), oesophagitis (17%) and portal hypertension (5%). Thirty-five percent of the patients presented pain, nosebleed, or NG tube placement failure. There were no statistically significant differences between groups as regards the need for endoscopic treatment, rebleeding or mortality. NG tube placement did not help to identify patients with a lesion requiring endoscopic treatment.

In conclusion, NG intubation in patients with suspected upper GI bleeding cannot predict the need for endoscopic treatment, has no impact on outcomes, does not change the clinical approach, has a considerable number of complications and, therefore, will not help to clarify doubts as regards clinical management. For all these reasons, NG intubation should not be performed routinely in EDs, although some very selected patients could benefit from it (a bloody aspirate or with coffee grounds could help to differentiate upper GI bleeding with rapid transit time from a low GI bleed).[16,25] It is important to highlight that, should the clinician decide to insert an NG tube, the result obtained for the aspirate must be recorded in the patient's medical record as a quality indicator in the management of patients with upper GI bleeding.[9]

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