

Trans-nasal route

The new way of upper gastrointestinal technique diagnostic endoscopy

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In 1994, Reza Shaker¹ published his paper on unsedated transnasal pharyngoesophago-duodenoscopy technique in the journal of "Gastrointestinal Endoscopy", (GI) under the title of "New Methods".

Interestingly, this method did not receive enough attention, and a few years had to pass before more publications on this method appeared. At that time Shaker had used a bronchoscope introduced transnasally in unsedated patients to evaluate the pharynx, oesophagus, stomach and duodenum. The bronchoscope used was the Olympus GIF N-30 with the external diameter of 5.3mm. All volunteers had tolerated the procedure without any difficulty. The author was able to perform complete upper GI endoscopy in all volunteers. The author also concluded that the transnasal route has no risk of drug reaction and medication-induced cardiopulmonary complications. The risk of gagging or vomiting was significantly reduced since the patients are fully awake and often if vomiting does occur, patients are able to protect their airway naturally. He also concluded that compared to conventional EGD, unsedated transnasal EGD requires very little nursing care, which translates to reduction of resource-spending and contributes to economisation of health care expenditure. He also added that patients with cervical or pharyngeal dysphagia could undergo evaluation of the pharynx, oesophagus and stomach in one session by unsedated transnasal EGD. The author concluded that transnasal EGD is a safe and a feasible procedure that is potentially cost saving.

This route is clearly not well tolerated by a good proportion of our patients, and many of them have unfavorable memories of their endoscopical evaluation. The method of transnasal endoscopy had to wait a few years until the recent publications again

in the same journal of Gastrointestinal Endoscopy where additional 3 papers have been published,²⁻⁴ one of them from the same group and the rest are from other centers. The first paper is from Adelaide Australia, by Craig et al,² where a comparison was made of transnasal and peroral endoscopy with a small diameter video endoscope in unsedated patients. The authors found again that transnasal endoscopy with video endoscope was easy in the introduction and once the intubation had been successfully achieved for either route, the patient tolerance was the same. They found that trans-nasal route compared to the trans-oral is less successful but can cause more epistaxis. However, the other author from Portland-Oregon³ who performed their randomized trial comparing per oral and trans-nasal endoscopy using an ultra thin videoscope concluded that unsedated endoscopy by either the per-oral or trans-nasal route is generally well tolerated. The third group⁴ with the author of the initial paper from 1993, Shaker,¹ concluded that again the trans-nasal upper GI endoscopy is a technique that eliminates the cost and the complications associated with sedation and it is a feasible and accurate alternative to conventional EGD. This is especially true for documentation of *H. pylori* and confirmation of healed ulcers.

The new enthusiasm for the study of trans-oral route is again due to the new developments of a video endoscope from both companies, Olympus and Pentax, where now a 6mm outer diameter scope is available for pediatric patients but can utilized for the trans-nasal upper GI endoscopy in adults. Here in Saudi Arabia, we are also trying to reduce the cost and perform most of our upper GI endoscopies without sedation, however all of these are performed per-orally. Our group in the Military Hospital have tried this method and paper is sent for publication to

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The Saudi Journal of Gastroenterology.⁵ We found that the trans-nasal route is well tolerated by the patient and that it is feasible and safe. The drawback on this method is the small channel which makes the irrigation of the lens sometimes difficult and the view might be limited.

Trans-nasal EGD also offers an advantage whereby the patients can speak and communicate during the procedure and it can be carried out in a sitting position. The patient can watch his procedure and this is facilitated by the fact that gagging is certainly a lot less. The risk of aspirations was clearly reduced and the important issue of the patient biting the scope in the per-oral route is eliminated by opting for the trans-nasal route.

Dean et al⁶ even observed the oxygen saturation during the procedures and reported that there was no significant change in the oxygen saturation during the trans-nasal upper GI endoscopy. Similar findings were confirmed by our study from the Riyadh Armed Forces Hospital.⁵ The disadvantages of the trans-nasal EGD is that in 10% to 15% cases the insertion through the nose can be unsuccessful because of anatomical factors. It is therefore expected that with the availability of the ultra thin 6mm diameter endoscopes, the success rate of insertion will also improve. It is prudent then to mention that transnasal endoscopy is at present clearly not for therapeutic purposes in view of the small diameter of the therapeutic channel of these endoscopes. In some patients, epistaxis may occur but proper training and the gentle introduction of the instrument should reduce this. Incidentally, epistaxis in the various studies that have been published and also in our study was of a short duration and stopped spontaneously. Acceptance by the patients of transnasal EGD was more forthcoming when compared to those who had undergone peroral EGD. Most of these patients in the transnasal EGD group

were willing to undergo this procedure again if necessary. This was also confirmed by our recent study.

Regarding the question of the endoscopist's preference to the two approaches, we feel that the reluctance to accept the transnasal approach is probably related to the unfamiliarity with this new form of intubation and the optical disadvantages of the unclear lens. In our study, all the endoscopists preferred the transnasal route despite the disadvantages of the unclear lens and the limited suction. In conclusion, transnasal EGD in unsedated patients has the potential of reducing cost through limiting the use of sedation and protection of the endoscopes, but it should be emphasized that transnasal EGD should be presently reserved for diagnostic purposes only.

References

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