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## UPPER GI ENDOSCOPY 'WITHOUT WEEP OR SLEEP' – 'EVIDENCE BASED MEDICINE'

N. S. Kannan, C.P.Ganesh Babu

Department of General Surgery, Mahatma Gandhi Medical College and Research Institute, Pillaiyarkuppam, Pondicherry, India

E-mail Of Corresponding Author: drnskannan@yahoo.co.in

### ABSTRACT

**Objectives:** As per 'Evidence Based Medicine', premedication or sedation is not necessary for upper gastro intestinal endoscopies. We are presenting our experience with more than 3000 upper gastro intestinal endoscopies done by us over a period of six years in a district head quarters hospital.

**Methods:** All the patients were screened to rule out co- morbidities. They were prepared with over night starvation. Each patient was given pre procedure counselling about the actual procedure and in what way he is expected to cooperate during the procedure. Their baseline stress level was accessed before admission and those who were found to be uncooperative or demanded pre medication or sedation were referred to the centre where the procedure is done under sedation.

**Results:** While performing upper gastro intestinal endoscopy without premedication or sedation the scopist was comfortable and all the patients also cooperated well during the procedure.

**Discussion:** Unless the requirements defined under 'S3 Guideline: Sedation for gastrointestinal endoscopy 2008' of Riphaus A et al, are met with, sedation should either be avoided or, if sedation is indicated and/or the patient wants sedation, the patient should be transferred to a facility that does fulfil these requirements. Upper gastro intestinal endoscopy without sedation is considered to be a safe, quick, and well tolerated procedure. The avoidance of sedation related morbidity and mortality is an obvious advantage and undoubtedly saves significant time and cost.

**Conclusion:** Our study adds to the 'Evidence Based Medicine' in favour of performing simple procedures like upper GI endoscopy safely and cost effectively, without any form of premedication or sedation.

**Keywords:** Upper Gastro Intestinal Endoscopy, Premedication, Sedation, S3 Guideline.

### INTRODUCTION

In the past few years, interest in sedation in gastrointestinal endoscopy has increased. It is currently the subject of much debate, some of it very lively. One major issue is the exact indication for sedation. Premedication is not necessary for all gastroenterological endoscopic interventions. Whether it is required depends on the nature of examination, its duration, its complexity, its invasiveness, and on the individual patient's characteristics. Of late there are many articles published based on 'Evidence Based Medicine' to

support the concept performing simple procedures like upper gastro intestinal endoscopy without any form of premedication or sedation. We are presenting in this article our experience with more than 3000 upper gastro intestinal endoscopies done by us over a period of six years in a district head quarters hospital without any form of premedication or sedation.

### MATERIALS AND METHODS

In the district head quarters hospital Pudukkottai, India, we did upper gastro intestinal endoscopy

procedure minimum 5 to 8 cases per day on Mondays and Thursdays. All the cases were referred from peripheral hospitals and out patient department of district head quarters hospital Pudukkottai. All the patients were screened with basic investigations to rule out co- morbidities. ECG was also taken for all patients and physician's opinion obtained regarding fitness for the procedure with specific reference to cardiovascular and respiratory system. They were prepared with over night starvation after night dinner. In cases with suspected gastric outlet obstruction Ryle's tube stomach was given prior to procedure. All the patients were allowed to sit in the waiting room before procedure. In the pleasing ambience of the waiting room they felt comfortable listening to melodious light music as a part of stress buster<sup>1,2</sup>. Apart from that they used to chat with each other especially with the patients who had come for repeat procedure for some reason or other. This made them mentally prepared to face the procedure comfortably. Each patient was given pre procedure counselling about the actual procedure and in what way he is expected cooperate during the procedure without any form of premedication and sedation. This was in addition to the awareness created in their mind by the referring family consultant. Proper informed consent was obtained from each patient before procedure. Their baseline stress level was accessed before admission using 'The State-Trait Anxiety Inventory' (STAI) method<sup>3</sup>. Those who were found to be uncooperative or demanded pre medication or sedation were referred to the centre where the procedure is done under sedation. But this group consisted only negligible percentage since all the patients were referred by their family consultants and were trust based due the familiarity of the team doing the procedure. And also most of the patients were of poor economic status and the procedure was done absolutely free of cost. Informed consent was obtained from each patient.

Based on 'Evidence Based Medicine' simple procedures like upper gastro intestinal endoscopy can be performed without any form of premedication or sedation. Incidentally it is cost effective since it is not mandatory to have qualified anaesthesiologist or staff/technician anaesthetist to monitor the patient under sedation with high tech-equipments. At the same time, the patient's right for safety and possible untoward event happening when the procedure is done without any form premedication or sedation was always kept in mind and the endoscopy console was located within the operation theatre complex. The procedure was done only during day time when regular operation list was going on, so that full-fledged resuscitative team with all infrastructures was always available. . Before the procedure the outer surface of the scope was smeared with xylocaine jelly for lubrication purpose only to make the insertion of scope easier in addition to routine cleaning in between procedures. The procedure was assisted by well qualified staff nurse in endoscopy assistance. Patient's vitals were being monitored by another qualified staff nurse through out the procedure.

## RESULTS

While performing upper gastro intestinal endoscopy without premedication or sedation the scopist was comfortable and did not experience any difficulty. All the patients also cooperated well during the procedure. Nil untoward events happened, necessitating any procedure abortion or resuscitative intervention. All the patients were willing to have repeat procedure, if needed without any premedication or sedation.

## DISCUSSION

Riphaus A et al in their article<sup>4</sup> have stated: 'In the past few years, interest in sedation in gastrointestinal endoscopy has increased. It is currently the subject of much debate, some of it very lively. One major issue is the exact indication for sedation. Premedication is not necessary for all

gastroenterological endoscopic interventions. Whether it is required depends on the nature of examination, its duration, its complexity, its invasiveness, and on the individual patient's characteristics'. The same authors also have given guidelines intended to complement and link up with the already existing recommendations on sedation for gastrointestinal endoscopy by non anaesthetists with the aim of improving patient safety in the medium and long term<sup>5,6,7,8,9,10,11,12,13,14</sup>

On principle, simple endoscopic examinations (gastroscopy, sigmoidoscopy, colonoscopy, etc.) can be performed without sedation in suitable patients. (Recommendation grade A, evidence level 2b, strong consensus.)<sup>2</sup>. The type and intensity of the sedation and the drug used should be selected according to the type of intervention and the patient's ASA grade and individual risk profile. There are particular requirements in respect of facilities, equipment, and qualified personnel. Unless the requirements defined under Section 2.3.4 "Monitoring/ structure quality" of Riphaut A et al's 'S3 Guideline: Sedation for gastrointestinal endoscopy 2008', are met with, once the risk-benefit balance and the patient's wishes have all been weighed up, sedation should either be avoided or, if sedation is indicated and/or the patient wants sedation, the patient should be transferred to a facility that does fulfil these requirements. (Recommendation grade A, evidence level 5, strong consensus.)<sup>2</sup>.

TK Danshmend<sup>15</sup> in his nationwide survey identified a total of 119 respiratory arrests, 37 cardiac arrests, and 52 deaths when oesophago gastro duodenoscopy (OGD) was done under sedation oesophago gastro duodenoscopy without sedation is considered to be a safe, quick, and well tolerated procedure<sup>16,17</sup>. The use of lignocaine for oropharyngeal topical anaesthesia carries potential hazard, for example, methaemoglobinaemia and there may also be an increased risk of aspiration with the pharynx anaesthetised<sup>15</sup>. The avoidance of sedation related morbidity and mortality is an obvious advantage and undoubtedly saves

significant time and cost. Other studies, however, suggest that unsedated oesophago gastro duodenoscopy is unpleasant, at least for some patients<sup>18,19,20</sup>. Patients should be well informed not only about the benefits but also the risks and discomfort associated with the procedure. This will help them to make a balanced decision. Gastrointestinal endoscopy is a commonly performed procedure. Patients' wishes are, therefore, of paramount importance especially in the context of informed consent and clinical governance<sup>21</sup>. Sedation is not required to perform a technically adequate gastroscopy but does improve patient satisfaction, comfort, and willingness to repeat particularly in the elderly and those with decreased pharyngeal sensitivity<sup>22</sup>

Prospective audit of upper gastrointestinal endoscopy done by MA Quine et al<sup>23</sup> in 36 hospitals across two regions provided data from 14149 gastroscopies of which 1113 procedures were therapeutic and 13036 were diagnostic. Most patients received gastroscopy under intravenous sedation; midazolam was the preferred agent in the North West and diazepam was preferred in East Anglia. Mean doses of each agent used were 5.7 mg and 13.8 mg respectively, although there was a wide distribution of doses reported. Only half of the patients endoscoped had some form of intravenous access in situ and few were supplied with supplementary oxygen. The death rate from this study for diagnostic endoscopy was 1 in 2000 and the morbidity rate was 1 in 200; cardiorespiratory complications were the most prominent in this group and there was a strong relation between the lack of monitoring and use of high dose benzodiazepines and the occurrence of adverse outcomes. In particular there was a link between the use of local anaesthetic sprays and the development of pneumonia after gastroscopy ( $p < 0.001$ ). Twenty perforations occurred out of a total of 774 dilatations of which eight patients died (death rate 1 in 100). A number of units were found to have staffing problems, to be lacking in basic facilities, and to have poor or virtually non-

existent recovery areas. In addition, a number of junior endoscopists were performing endoscopy unsupervised and with minimal training Phyllis R. Bishop *et al*<sup>24</sup> in their study inferred unsedated esophago gastro duodenoscopy (EGD) can be performed safely and successfully in children with good patient tolerance. There was a significant decrease in total procedure time for children who have unsedated esophago gastro duodenoscopy. Unsedated esophago gastro duodenoscopy should be considered a viable option for motivated children. Sedation is usually safe; however, complications may occur, although in various proportions depending on a number of factors, including the type, dose and mode of administration of sedative drugs, as well as the patient's age and underlying chronic disorders. A large number of side effects, including hypotension, desaturation, bradycardia, hypertension, arrhythmia, aspiration, respiratory depression, vomiting, cardiac arrest, respiratory arrest, angina, hypoglycaemia, and/or allergic reaction, have been reported.

Important medical and legal issues regarding sedation have been raised during recent years. Such issues include informed consent of the patient, difficulties in assessing withdrawal of consent in a sedated patient, and the need for sedation monitoring that meets accepted standard of care guidelines<sup>25</sup>. Other controversies possibly related to medico-legal aspects include both the use of propofol and the administration of sedation by anaesthesia personnel. The former controversy is extremely important from a legal point of view if the continuously increasing use of propofol in Gastro Intestinal Endoscopy by non-anaesthesiologists is taken into account. In a related article, Axon AE<sup>26</sup> emphasises the possible clinical negligence that could be associated with sedation administration. Interestingly, while the law recognises the desirability of sedation in endoscopy procedures, the facts of a particular case will be scrutinised to determine possible responsibilities of the endoscopist if an adverse

outcome occurs. Such questions related to the administration of sedation during gastro intestinal endoscopy are discussed in detail in their article by John K Triantafillidis *et al*<sup>27</sup>. Rana S. *et al*, in their study of 2015 cases, it was reported that in 94% of these cases, the upper gastrointestinal system endoscopy was well tolerated without pre-endoscopic sedation and topical anaesthesia, and that the endoscopic procedure was performed more easily<sup>28</sup>. The British Society of Gastroenterologists (BSG) recommends performing endoscopy in well designed endoscopy units<sup>29</sup>. BSG also recommends that two assistants, at least one of whom must be a qualified nurse, are required at each table<sup>30</sup>. A study was performed by Hoya *et al*, at the digestive endoscopy service of a 150-bed acute care hospital in Japan<sup>31</sup> has proved that providing an optimal soothing environment (OSE) before and during gastroscopy is useful to minimize patient anxiety regarding experiencing a gastroscopy. This non- pharmacological method is a simple, inexpensive, and safe method of minimizing anxiety before and during gastroscopy.

## CONCLUSION

Our study adds to the 'Evidence Based Medicine' in favour of performing simple procedures like upper gastro intestinal endoscopy without any form of premedication or sedation, provided the basic mandatory precautions are observed as detailed in the methodology section of our article. Performing upper gastro intestinal endoscopy without any form of premedication or sedation is not only safe but also cost effective.

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