

Impact of Non-sedation in Gastrointestinal Conventional Endoscopy Practices in Outpatient Setup

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ABSTRACT

Background: This study is aimed to evaluate the impact of non-sedation in gastrointestinal conventional endoscopy practices in outpatient setup. The importance of our study is to assess the safety, tolerability of the non-sedation methodology and suggest the benefits of the non-sedation procedures. This study was conducted in endoscopy department of Krishna Institute of Medical Sciences (KIMS). A total of 150 patients were included in the study after acquiring their consent over it. Pregnant, lactating women, Volunteers with less than 18years. Patients with Cardio respiratory problems and recent myocardial infarction were excluded from the study. All the necessary data was collected from the patient record such as case sheets, lab reports, medical history. Required tools and software were used to assess the collected data and results were calculated based on them. **Aim:** To Evaluate and Study the impact of non-sedation in gastrointestinal conventional endoscopy practices in outpatient setup. **Materials and Methods:** In the present study, a total 150 subjects undergoing Endoscopy were enrolled as per inclusion and exclusion criteria from the Department of Gastroenterology, Krishna Institute of Medical Sciences (KIMS). **Results:** Based on post endoscopy complications 70 cases were with Difficulty in swallowing (47%), 2 cases were with Change in speech (1%), 46 cases with Throat pain (31%) and 32 cases were with Vomiting sensation (21%). Based on pre pain score of 86 were little discomfort, 53 were mild pain, 14 for moderate pain and none had severe pain. Based on oxygen saturation levels during endoscopy 36 cases were of SpO₂ (100%), 59 cases of SpO₂ (98%), 55 cases of SpO₂ (97%). Based on pain scale endoscopy, 26 people are in pain before endoscopy, 89 people are in pain during endoscopy, 35 people are in pain after endoscopy. Post endoscopy pain score (sedation) were 87 people has pain after endoscopy (2 hr), 43 people has pain after endoscopy (4 hr), 20 people having pain after endoscopy (6 hr). **Conclusion:** The present study concludes that patients can also undergo the endoscopy procedures without taking a sedative which decreases the unwanted side effects which are commonly observed with the sedatives and also improve the quality of life of patients and even they need not to be monitored as a follow up for further complications

Key words: Endoscopy, Gastro Intestinal Tract, Ccolonoscopy, Non sedation, Safety, Tolerability.

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INTRODUCTION

Unsedated Endoscopy has an important function to play a role in GI Endoscopy practise. It is technically available to a limited number of patients. Smaller diameter endoscopes, less than 9 mm in diameter, can improve the tolerability of upper endoscopy when no sedation is used. Many patients refuse to be sedated

for examinations, and those who have had endoscopy may have more pain (or) discomfort symptoms than those who have had conventional endoscopy. During an unsedated endoscopy, topical anaesthesia is commonly used. Patients who do not have a history of abdominal pain and are not anxious may tolerate less (or) no sedation better. Although sedated endoscopy appears



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to have a minimal risk of complications, topical pharyngeal sprays containing lidocaine, tetracaine, lidocaine and benzocaine are frequently used for numbing purposes during upper GI endoscopy.^{1,2} Non-sedated endoscopy is used in the majority of European nations, including Spain, Sweden, Germany, Greece and Switzerland. Chang *et al.*, shown in prospective, single blind research that, the endoscopist felt more comfortable with sedated than unsedated gastroscopies.³ In terms of procedural ease or patient satisfaction, between the two groups, there were no statistically significant differences. The entire duration from the entrance to the endoscopic room to final release, on the other hand, varies greatly.^{4,5} The review of literature reveals the significant of benefits as well as side effects associated with various endoscopic procedures without any sedation. The Need of the study is to suggest the benefits of upper gastro endoscopies without sedation. The study is also helpful to assess the safety and tolerability of the patient's without sedation in endoscopic procedures.

The study was aimed i) to Evaluate and Study the impact of non-sedation in gastrointestinal conventional endoscopy practices in outpatient setup 2) to suggest the necessity (or) indication for Non-sedation in selected patients and it can help in counselling for the procedure iii) to evaluate the pre and post pain score of patients and post Endoscopy complications and iv) to assess the safety measures and quality of life of post Endoscopic Patients.

MATERIALS AND METHODS

Collection of Data

“A Prospective Observational Study was planned to be conducted in the Department of Gastroenterology, Krishna Institute of Medical Sciences (KIMS) Hospital, from the data collected in a study population of 150 subjects (Patients who underwent endoscopy procedures) for 6 months duration. **Inclusion criteria:** Only Upper Gastrointestinal Endoscopy Patients with medical history of Dysphagia, Odynophagia of either sex. **Exclusion criteria:** Subjects less than 18 years, subjects with Cardiorespiratory problems, recent Myocardial infarction, suspected perforated viscus, pregnancy and lactation patients are not allowed for the procedure. **Source of Data:** Patient's Reports, Endoscopy Reports, Communicating with Healthcare Professionals.

Methods

During this study period, 150 patients over the age of 18 who appear with Symptoms of dysphagia, vomiting of unknown cause, dyspepsia, acidity, reflux etc.,

were enrolled in study after signing in the informed consent form at Krishna Institute of Medical Sciences, Secunderabad.

This Study could lead to the suggestion on Non sedation in Upper Gastrointestinal Endoscopy Procedure. The patient's were evaluated with non-sedation and prepared for the endoscopy. Chief complaints and vital signs were gathered and a pain score was calculated and complications were observed. In endoscopy inclusion and exclusion study criteria was included while selecting the patients.

Variable included in this study are age, gender, smoking and alcohol status, duration of pain (or) symptoms after endoscopy without sedation, past medical history such Diabetes, Hypertension, GI disorders etc. Pain scale before and after endoscopy procedure was recorded.

All of the data was collected in a structural proforma and the collected data was analysed at the end of the study.

Statistical Analysis

All data collected was compiled in a Microsoft Excel spreadsheet, and statistical methods were used. Data was analysed at the end to achieve the objectives of the study.

Ethical Consideration

As per the Institutional human ethics committee written consent was obtained from all the study participants, and those participants willing to sign the informed consent were only included in the study, and the confidentiality of the study participants was maintained (KIMS/ECBMHR/2021/16-04).

RESULTS

In the present study, a total 150 subjects undergoing Endoscopy were enrolled as per inclusion and exclusion criteria from the Department of Gastroenterology, Krishna Institute of Medical Sciences (KIMS).

Demographic Details

The subjects were distributed based on the demographic details; females were 62(41%) and males were 88(59%). A total, 150 patients were included in the study, who were separated into age groups ranging from 18 to 21 years 4(10%) members, 22 to 35 years of 25(16%) members, 36 to 49 years 39(25%) members, 50-65 years of 40(26%) and over 66 years 48(31%) (Table 1).

Distribution based on Chief complaints of the patient's

In total, 150 patients were considered and they were divided into groups based on their primary complaints 25 cases of Dysphagia(17%), 46 cases of Dyspepsia(31%), 9 cases of acidity(6%), 10 cases of Reflux(7%), 4 cases of malaena(2%), 8 cases of acid peptic ulcer(5%), 10 cases of Hiccups(7%), 12 cases of Esophageal varices(8%), 10 cases of stomach pain(7%), 6 cases of burning sensation(4%), 1 case of mesenteric vein thrombosis (1%), 3 cases of ALD-CLD Portal hypertension(2%), 4 cases of Abdominal distension(2%), 2 cases of CLD s/p EVL (1%). (Table 2).

Distribution based on post endoscopy complications

In total, 150 subjects post endoscopy complications were observed where in 70 cases displayed difficulty in swallowing(47%), 2 cases showed change in speech(1%), 46 cases displayed Throat pain(31%), 32 cases displayed Vomiting sensation(21%) (Table 3).

Table 1: Distribution of subjects based on age groups.

| Age | Total |
|-------|---------|
| 18-21 | 4(10%) |
| 22-35 | 25(16%) |
| 36-49 | 39(25%) |
| 50-65 | 40(26%) |
| 66+ | 48(31%) |

Table 2: Distribution of subjects based on chief complaints.

| Chief complaints no. | Cases |
|-------------------------------|-------|
| Dysphagia | 25 |
| Dyspepsia | 46 |
| Acidity | 09 |
| Reflux | 10 |
| Melaena | 04 |
| Acid peptic ulcer | 08 |
| Hiccups | 10 |
| Esophageal varices | 12 |
| Stomach pain | 10 |
| Burning sensation | 06 |
| Mesenteric vein thrombosis | 01 |
| ALD-CLD-Portal Hypertension | 03 |
| Abdominal distension | 04 |
| Chronic liver disease s/p EVL | 02 |

Table 3: Distribution of subjects based on post endoscopy complications.

| Post endoscopy complications | SpO2 |
|------------------------------|------|
| Difficulty in swallowing | 70 |
| Change in speech | 02 |
| Throat pain | 46 |
| Vomiting sensation | 32 |

Table 4: Distribution of subjects bases on Pre pain score.

| No of subjects Pre pain | Score (0-10) |
|-------------------------|--------------------------|
| 83 | 83 Little discomfort (2) |
| 53 | Mild (4) |
| 14 | Moderate (5) |
| 0 | Server |

Table 5: Distribution of subjects based on SpO₂ (during endoscopy).

| No. Subjects | SpO2 |
|--------------|------|
| 36 | 100% |
| 59 | 98% |
| 55 | 97% |

Distribution of subjects based on Pre pain score (Illness pain)

In total, 150 subjects 86 had pre-pain score of little discomfort, 53 displayed mild pain, 14 for moderate pain and none had severe pain (Table 4).

Distribution of Oxygen Saturation levels during Endoscopy

In 150, Subjects oxygen saturation levels was observed during endoscopy and the results displayed 36 cases of SpO₂ (100%), 59 cases of SpO₂ (98%), 55 cases of SpO₂ (97%) (Table 5).

Distribution of subjects based on pain scale endoscopy for Non sedation

In all, 150 people who underwent non-sedation endoscopy, the pain scale endoscopy was observed were 26 people displayed pain before endoscopy, 89 people displayed pain during endoscopy, and 35 people displayed pain after endoscopy

Distribution of based post Endoscopy pain score (hrs) for Sedation

In total, 150 people post endoscopy pain score (sedation) were 87 people has pain after endoscopy (2 hr), 43 people has pain after endoscopy (4hr), 20 people having pain after endoscopy (6 hr) (Table 6).

Table 6: Distribution of cases based on Endoscopy.

| Pain Scale Endoscopy | No of Subjects |
|----------------------|----------------|
| Pre Endoscopy | 26 |
| During Endoscopy | 89 |
| Post Endoscopy | 35 |

DISCUSSION

One of the most common procedure that a gastroenterologist does is upper gastrointestinal endoscopy or esophagogastroduodenoscopy. Upper gastrointestinal endoscopy is a procedure to diagnose and treat problems in upper gastrointestinal tract. Upper gastrointestinal endoscopy is recommended, if patient having indications such as dysphagia or odynophagia, gastric ulcer, esophageal varices, vomiting of unknown cause, persistent nausea, gastroesophageal reflux, occult gastrointestinal bleeding, new onset dyspepsia in a patient ≥ 50 . Upper gastrointestinal endoscopy is not recommended for simple dyspepsia of age < 50 yrs, metastatic adenocarcinoma, follow up on healed benign disease etc. Most of the endoscopists are using sedation while performing the upper gastrointestinal endoscopy.

Reviewing of literatures suggest, non-sedation endoscopy was very safe, tolerable for most of the patients. It is cost efficacious procedure by increasing the rate of successful endoscopies, and patients were willing to repeat this procedure.^{6,7} Non-sedative procedure has less recovery time when compared to sedative procedure. The surgery was well tolerated by 80.3 percent of patients and 74.2 percent of the procedures were performed effectively with no complications. Average time required for non-sedated endoscopy was found to be 9.5 mins which is half of the time required for sedated endoscopy.^{8,9} Therapeutic interventions during non-sedated endoscopy, patients require continuous monitoring of SpO₂, cardiac output. Cardiac output did not increase during the procedure.¹⁰⁻¹² The review was then correlated with the standard data collected and the study was further continued.

This study aimed to evaluate the impact of non-sedation on upper gastro endoscopy. The importance of our study was to assess the safety and tolerability, and also suggest the patient to prefer the non-sedation procedures. This study was conducted in endoscopy department of Krishna Institute of Medical Sciences (KIMS). A total of 150 patients were included in the study after acquiring their consent over it. Pregnancy, lactation, 18 years, cardiorespiratory problems, recent myocardial infarction were excluded from the study. All the necessary data was collected from the patient record such as case sheets, lab reports, medical history. Required tools and

software were used to assess the collected data and results were calculated based on them.

In our study a total of 150 subjects who undergo endoscopy were enrolled. 62 subjects were females and 88 subjects were males. The age group, above 66 were included 48 subjects, 50-65 were including 40 subjects, 36-46 including 39 subjects, 22-35 including 25 subjects, 18-21 including 4 subjects. Based on their primary complaints 25 cases of Dysphagia (17%), 46 cases of Dyspepsia (31%), 9 cases of acidity (6%), 10 cases of Reflux (7%), 4 cases of malaena (2%), 8 cases of acid peptic ulcer (5%), 10 cases of Hiccups (7%), 12 cases of Esophageal varices (8%), 10 cases of stomach pain (7%), 6 cases of burning sensation (4%), 1 case of mesenteric vein thrombosis (1%), 3 cases of ALD-CLD-Portal hypertension (2%), 4 cases of Abdominal distension (2%), 2 cases of CLD s/p EVL (1%). Based on post endoscopy complications 70 cases were with Difficulty in swallowing (47%), 2 cases with Change in speech (1%), 46 cases with Throat pain (31%), 32 cases with Vomiting sensation (21%). Based on pre pain score of 86 were little discomfort, 53 were mild pain, 14 for moderate pain and none had severe pain. Based on oxygen saturation levels during endoscopy were 36 cases of SpO₂ (100%), 59 cases of SpO₂ (98%), 55 cases of SpO₂ (97%). Based on pain scale endoscopy, 26 people are in pain before endoscopy, 89 people are in pain during endoscopy, 35 people are in pain after endoscopy. Post endoscopy pain score (sedation) were 87 people has pain after endoscopy (2 hr), 43 people has pain after endoscopy (4 hr), 20 people having pain after endoscopy (6 hr).

The safety and tolerability of the subjects were seen without sedation during the endoscopy procedure.

CONCLUSION

The present study was started with the primary objective to find out pre and post pain scores of patients and post endoscopy complications without using sedation before the upper gastro endoscopic procedure and the Secondary objective is to assess the safety measures and quality of life of post endoscopic patients. After conducting the study and analysing the results, we found that the patient with no sedation had not complained about drowsiness/sluggishness in complication to the patient with sedation before on endoscopy.

Even though there are minor symptoms to patients like nausea, vomiting for some duration but the physical activity of the patient was not affected. So, in patients who are willing to undergo upper GI endoscopy procedure

without sedation was found to be beneficial by avoiding and reducing the unwanted cost to the patient. Hereby the present study concludes that patients can also undergo the endoscopy procedures without taking a sedative which decreases the unwanted side effects which are commonly observed with the sedatives and also improve the quality of life of patients and even they need not to be monitored as a follow up for further complications.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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