

Evaluation of Medical and Surgical Treatment of Gastroesophageal Reflux in Severely Retarded Subjects: A Comparative Study.

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ABSTRACT

Background: Gastroesophageal reflux disease (GERD) is of the common disease affecting a significant proportion of the world population. GERD is a chronic disease that typically requires long term management in the form of lifestyle modification, medical therapy and, for a subset of patients, surgical therapy. Hence; we conducted the present study to assess and compare the outcome of medical and surgical treatment therapy in severely retarded subjects with GERD. **Materials & Methods:** The present study included comparison of efficacy of medical and surgical treatment in retarded patients with GERD. A total of 24 patients were included in the present study and were randomly divided into two study groups. Group A included patients that underwent medicinal treatment while group B included patients in which surgical treatment was planned. Nissen fundoplication and gastrostomy was performed in group B patients. Complete follow-up details of all the patients were maintained and compared. All the results were analyzed by SPSS software. **Results** A total of 24 patients were included in the present study which were broadly divided into two study groups. Mean age of the patients of group A and group B were 25.2 years and 24.2 years respectively. Respiratory symptoms were found to be present in 1 and 4 patients of group A and group B respectively. Significant results were obtained while comparing the respiratory symptoms in patients of group A and group B. **Conclusion:** Improvement in respiratory symptoms occurred significantly faster in patients undergoing medicinal treatment. However; no other significant changes were obtained in patients undergoing medicinal and surgical treatment.

Keywords: Gastroesophageal, Reflux, Retarded

INTRODUCTION

Gastroesophageal reflux disease (GERD) is a common disease with a prevalence as high as 10%-20% in the western world. Gastroesophageal reflux disease (GERD) is defined as symptoms or mucosal damage produced by the abnormal reflux of gastric contents into the esophagus or beyond, into the oral cavity (including larynx) or lung.^[1-3] The diagnosis of GERD is typically made by a combination of clinical symptoms, response to acid suppression, as well as objective testing with upper endoscopy and esophageal pH monitoring. GERD can be classified as non-erosive reflux disease (NERD) or erosive reflux disease (ERD) based on the presence or absence of esophageal mucosal damage seen on endoscopy.^[4,5] GERD is a chronic disease that typically requires long term management in the form of lifestyle modification, medical therapy and, for a subset of patients, surgical therapy.^[6,7]

Hence; we conducted the present study to assess and compare the outcome of medical and surgical treatment therapy in severely retarded subjects with GERD.

MATERIALS AND METHODS

The present study was conducted in the department of medicine and surgery and included assessment and comparison of efficacy of medical and surgical treatment in retarded patients with GERD. Ethical approval was taken from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A total of 24 patients were included in the present study and were randomly divided into two study groups. Group A included patients that underwent medicinal treatment while group B included patients in which surgical treatment was planned. Both group consisted of 12 patients each. Inclusion criteria for the present study included:

- Patients diagnosed with GERD,
- Patients more than 20 years of age,
- Patients with variety of primary diagnosis (cerebral palsy, idiopathic mental retardation, traumatic brain injury)

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- Patients with negative history of any other systemic illness,
- Patients with negative history of any known drug allergy

On assessing the patients with Esophageal manometry, it was observed that resting lower esophageal sphincter pressure was less than 15 cm H₂O. Complete details of all the patients were recorded along with presenting sign and symptoms. Nissen fundoplication and gastrostomy was performed in group B patients. Complete follow-up details of all the patients were maintained and compared. All the results were analyzed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

Table 1: Demographic details of the patients of the two study groups

Parameter	Group A	Group B
Mean age (years)	25.2	24.2
Males	7	6
Females	5	6

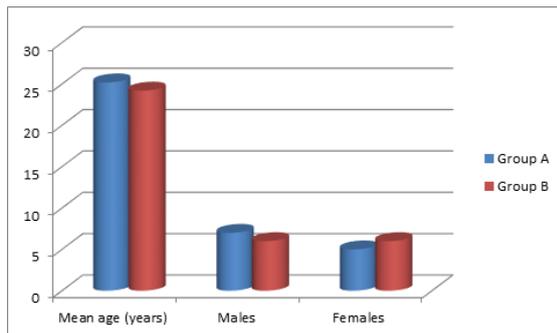


Figure 1: Demographic details of the patients

Table 2: Follow-up details of the patients after treatment

Parameter	Group A (No. of patients)	Group B (No. of patients)	p- value
Anaemia	3	6	0.00*
Respiratory symptoms	1	4	0.00*
Esophageal stricture	2	1	0.50
Emesis	10	9	0.25

*: Significant

A total of 24 patients were included in the present study which were broadly divided into two study groups; group A which included patients who underwent medicinal treatment, while group B included patients who underwent surgical treatment. Mean age of the patients of group A and group B were 25.2 years and 24.2 years respectively. In group A and group B, there were 7 and 6 males respectively. On follow-up anaemia was found to be present in 3 and 6 patients of group A and group B

respectively. Respiratory symptoms were found to be present in 1 and 4 patients of group A and group B respectively. Significant results were obtained while comparing the respiratory symptoms in patients of group A and group B.

DISCUSSION

In the present study, we observed significant difference in the outcome of medicinal and surgical treatment in terms of respiratory symptoms and presence of anaemia only. Contini S et al assessed if and how the outcome variables used in the different studies could possibly lead to an homogeneous appraisal of the limits and indications of LARS. They analyzed papers focusing on the efficacy and outcome of LARS and published in English literature over the last 10 years. Symptoms scores and outcome variables reported are dissimilar and not uniform. The most consistent parameter was patient's satisfaction (mean satisfaction rate: 88.9%). Antireflux medications are not a trustworthy outcome index. Endoscopy and esophageal manometry do not appear very helpful. Twenty-four hours pH metry is recommended in patients difficult to manage for recurrent typical symptoms. More uniform symptoms scales and quality of life tools are needed for assessing the clinical outcome after laparoscopic antireflux surgery. In an era of cost containment, objective evaluation tests should be more specifically addressed. Relying on patient's satisfaction may be ambiguous, yet from this study it can be considered a practical and simple tool. Bloomston M et al reported 1-year outcomes and antacid medication use in 100 patients undergoing laparoscopic Nissen fundoplication. As a follow-up study, we queried these same patients to determine whether their outcomes endured 4 years after fundoplication. One hundred patients undergoing laparoscopic Nissen fundoplication between 1992 and 1997 were asked, at 1 to 2 years and 4 to 6 years postoperatively, to grade their symptoms on a scale of 1 (mild) to 10 (severe). Patients were also queried as to the number/cost of antacid medications used before and after fundoplication. Significant improvements were noted in symptoms of heartburn, postprandial emesis, gas/bloating, and dysphagia after fundoplication. Significant decreases in antacid medication use (97% vs 19%) and monthly costs (dollar 168 +/- dollar 91 vs dollar 30 +/- 54) were seen following fundoplication. The number of patients on antacid medications and the monthly costs of these medications (37% and dollar 53 +/- dollar 87, respectively) increased significantly from early to late follow-up, but were still significantly lower than those before surgery. Overall, 87% and 900% of patients were pleased with their outcome at early and late follow-up, respectively, and 93% and 92% of patients stated they would consider undergoing fundoplication again if necessary.

Laparoscopic Nissen fundoplication results in a significant reduction in the symptoms of reflux and the use of antacid medications with a high degree of patient satisfaction.^[9]

Spechler SJ et al determined the long-term outcome of medical and surgical therapies for GERD. Mean (median) duration of follow-up was 10.6 years (7.3 years) for medical patients and 9.1 years (6.3 years) for surgical patients. Two hundred thirty-nine (97%) of the original 247 study patients were found (79 were confirmed dead). Among the 160 survivors (157 men and 3 women; mean [SD] age, 67 years),^[12] 129 (91 in the medical treatment group and 38 in the surgical treatment group) participated in the follow-up. Use of antireflux medication, Gastroesophageal Reflux Disease Activity Index (GRACI) scores, grade of esophagitis, frequency of treatment of esophageal stricture, frequency of subsequent antireflux operations, 36-item Short Form health survey (SF-36) scores, satisfaction with antireflux therapy, survival, and incidence of esophageal adenocarcinoma, compared between the medical antireflux therapy group and the fundoplication surgery group. Information on cause of death was obtained from autopsy results, hospital records, and death certificates. Eighty-three (92%) of 90 medical patients and 23 (62%) of 37 surgical patients reported that they used antireflux medications regularly ($P < .001$). During a 1-week period after discontinuation of medication, mean (SD) GRACI symptom scores were significantly lower in the surgical treatment group (82.6 [17.5] vs 96.7 [21.4] in the medical treatment group; $P = .003$). However, no significant differences between the groups were found in grade of esophagitis, frequency of treatment of esophageal stricture and subsequent antireflux operations, SF-36 standardized physical and mental component scale scores, and overall satisfaction with antireflux therapy.^[10]

Wilkinson JD et al compared medical and surgical treatment of gastroesophageal reflux in severely retarded children. Of 31 severely mentally and physically handicapped children with gastroesophageal reflux treated with a standard medical regimen, only eight (26%) had complete or partial therapeutic response. Fourteen of 23 medical failures underwent Nissen fundoplication with a good therapeutic response in 12. There were 12 intra- and postoperative complications in six surgical patients. Two late postoperative deaths from pulmonary aspiration occurred in the surgical group (14%), both of whom had abnormal deglutition preoperatively. In nine patients who failed on medical management but in whom surgery was not performed there was continuing morbidity from emesis (88%), anemia (44%), and pulmonary disease (33%), and two deaths (22%) resulting from pulmonary aspiration. We conclude that conventional medical therapy of GER is less effective in retarded than in normal infants and

children, and that surgical treatment is associated with high operative risk but has an ultimately acceptable outcome. Continued medical therapy after initial failure to control symptoms is associated with significant morbidity and mortality.^[11]

CONCLUSION

From the above results, the authors concluded that improvement in respiratory symptoms occurred significantly faster in patients undergoing medicinal treatment. However; no other significant changes were obtained in patients undergoing medicinal and surgical treatment. Future research is recommended.

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