Original Article

ENDOSCOPIC SINUS SURGERY: RESULTS AT TWO YEAR FOLLOW-UP ON 200 PATIENTS

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ABSTRACT

Objective: The technique of functional endoscopic sinus surgery (FESS) has been widely accepted and applied to inflammatory diseases of the paranasal sinuses with internationally reported results of this technique having been very good. Our objective was to find out outcome after FESS at our centre.

Methodology: Two hundred patients who had undergone FESS during a two year period with an average follow-up period of eleven months were evaluated subjectively regarding the outcome of their endoscopic sinus surgery.

Results: An overall subjective improvement of about 94% was documented, with improvement in specific symptoms such as headache, nasal congestion, change in sense of smell, nasal discharge and recurrent infections ranging from 52% to 97%.

Conclusion: Our center reports a subjective improvement of symptoms following FESS compatible with results attained internationally.

KEY WORDS: Chronic sinusitis, Sinus surgery, Outcomes.

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INTRODUCTION

Chronic rhinosinusitis (CRS) is a common disease that has a significant impact on quality of life (QOL).[1] On the other hand functional endoscopic sinus surgery (FESS), has revolutionized the way otolaryngologists manage sinus disease in particular CRS. Currently there exists a growing body of literature on the objective and symptom specific efficacy of both medical and surgical interventions for CRS patients.[1-3] Recent efforts in measuring outcomes have focused on evaluating not only the physical but also the social and emotional consequences of diseases and their treatments.

Nasal-sinus disease is prevalent throughout the world. Patients with disorders of the nose and sinuses, particularly CRS, often experience a significant impact on their general quality of life, and the effect may even be greater than that caused by other chronic diseases, particularly as related to bodily pain and social functioning.[4] General QOL measurement tolls have been used to evaluate the impact of a variety of acute and chronic illnesses[5] but may be limited when used to measure the disease-specific impact on a patients perception of disability or the outcome from treatment. Therefore based on the form outlined by Kennedy et al in 1989[6] which is regarded as a disease-specific, self reported outcome measurement tool, we evaluated the outcome of 200 patients with CRS who had undergone FESS during a period of two years in our center.

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PATIENTS AND METHODS

Two hundred sixty patients operated upon in Khalili Hospital, Shiraz/Iran were evaluated subjectively. All patients had undergone FESS from 21 March 2001 to 20 March 2003 for persistent chronic sinusitis resistant to medical therapy (intranasal steroids, antibiotics) and in certain cases, surgical therapy. This was followed by careful postoperative endoscopic debridment till complete healing. In all patients appropriate antibiotic therapy was continued until healed, in addition to intranasal steroids; oral steroids were tailored to the individual cases. The necessity for longer-term follow up was individualized based on normalization of the cavity mucosa with an average follow up of 11 months. Sixty of the original cohort could not be located. All the remaining 200 (76 %) patients were contacted and were questioned by follow-up questionnaires evaluating the impact of FESS on specific symptoms associated with chronic sinusitis. In addition, applicable information regarding asthma, inhaler usage, steroid usage and antibiotic usage was collected. The questionnaire was based on one utilized and designed by Kennedy et al in 1989.[7] The pattern was that of categorical responses rather than continuous response variables; because of this, non-parametric analyses were performed. The specific symptoms of sinusitis that were assessed included headache, nasal discharge, congestion, smell disorder, recurrent infection, chronic cough, paranasal discharge (PND) and overall level of improvement. Individuals were asked to estimate the level of improvement compared with before their endoscopic procedure. The subjective responses for each symptom (e.g. improvement of 25%, 59%, or 100%) were then compared with one another preoperatively & postoperatively. matched-pair, signed-rank test was applied to assess significant changes in symptom improvement.

RESULTS

Of the 200 respondents 103(51.5%) were male and 97(48.5%) were female, with an age range of 17 to 80 years. 74% of the patients reported their symptoms as severe and intolerable preoperatively, with the major symptoms being nasal congestion 92%, and severe thick PND(87%). Other findings such as anosmia 66% and headache 64% were present. One hundred eighty eight of 200 (94%) respondents reported overall improvement compared with their preoperative status. Only two individuals reported worsening of symptoms following surgery. 62(31%) had no underlying cause while 22.5% had an accompanying asthma, 16% allergy, 20% had severe septal deviation and 11.5% were cigarette smokers prior to surgery. Post-operative follow-up at an average period of 11 months revealed an improved well-being of the patients and decreased subjective symptoms. Regarding specific symptoms of headache, nasal discharge, nasal congestion change in sense of smell and recurrent infections, improvements were noted in 97% (nasal congestion) of individuals. The average degree of reported symptom improvement ranged from 52% sense of smell to 68% headache. From the 48 (24%) who complained of chronic cough preoperatively 46 (95.8%) had an improvement of their cough postoperatively. An improvement of PND in 66% of the patients was also noted. Of the 200 in our cohort four patients (2%) had bleeding severe enough to warrant hospitalization which was controlled. No other complication was encountered during the mentioned follow-up period in our patients.

DISCUSSION

Surgical intervention in CRS typically is performed when patients remain refractive to medical therapy. Current transnasal approaches aim to remove bony sinus partitions and debulk polypoid mucosa, thereby allowing restoration of mucociliary clearance through the natural drainage pathways. This approach significantly reduces morbidity and provides satisfactory results when combined with appropriate medical therapy. However it has been clearly indicated that resolution of patient's symptoms does not equal resolution of disease.[2] Deciding on the best outcome to

measure after treatment of CRS is difficult. Because the disease itself is defined by signs and symptoms (and not physical findings), it is logical to use the presence and severity of sinonasal symptoms as the primary outcome measure for sinusitis. Symptoms are by definition subjective, and the measurement of symptoms requires that the patient complete a self-assessment instrument. It has been repeatedly documented that questionnaires (instruments) to measure subjective phenomena- such as symptoms or pain-can be very reliable, valid and responsive. We therefore based our questionnaire on one designed by Kennedy et al which has been in use since 1989.[6] We attempted to quantify subjective levels of improvement both overall and with regard to specific symptoms, following FESS and meticulous post-operative care involving both debridment and medical therapy. Extent of dissection at surgery was determined by the extent of disease, but because of referral patterns, our center being a tertiary referral center in southern Iran, the patients typically had extensive disease and even prior surgeries.

Multiple reviews of the results of endoscopic sinus surgery worldwide have reported excellent subjective results with overall improvements of about 90% in the short term[7,8] a result duplicated in our cohort during the average follow up period of 16 months of our patients in spite of the generally extensive or recurrent surgery needed by most of our patients. With respect to the specific symptoms of headache, nasal discharge, congestion, change in sense of smell, and recurrent infection, improvement was noted in 80% to 100% of individuals. Greatest improvement was seen in nasal congestion with 97% of individuals reporting improvement over the study period. Slightly less improvement was seen in nasal drainage, sense of smell, and recurrent infections. Somewhat to our surprise the majority of the 87% of the patients suffering from asthma also reported an improvement of their asthma. Overall, it seems as if results from endoscopic sinus surgery appear in our center as also reported in literature tend to be very encouraging when patients with CRS undergo FESS and meticulous postoperative surgical and medical management is performed. Gliklich and Metson[9] have previously shown that patients with chronic sinusitis have more bodily pain and worse social functioning than those with chronic obstructive pulmonary disease, angina, congestive heart failure, and back pain. Therefore a successful endoscopic sinus surgery can positively influence the life of these individuals.

CONCLUSION

We have reported outcome of patients who underwent FESS for inflammatory sinus disease during a two year period in our center. Even with majority of patients having severe sinus disease an excellent subjective result with overall improvements of about 94% in the study period was maintained, but since mucosal abnormalities in the sinonasal cavity after FESS continue even after symptomatic improvement has been documented[6] a long term follow up accompanied by objective outcomes and a comparison between the two findings would be more than ideal.

REFERENCES

1. Khalid A, Quraishi SA, Kennedy D. Long-Term Quality of Life Measures after Functional Endoscopic Sinus Surgery. Amer J Rhinology 2004;18-3:131-6
2. Benninger MS, Senior BA. The Development of the Rhinosinusitis Disability Index. Arch Otolaryngol-Head Neck Surg 1997;123:1175-9.
3. Smith TL. Outcomes Research in Rhinology: Chronic Rhinsinustitis. ORL 2004;66,4;202-6.
4. Glicklich RE, Metson R. The health impact of chronic sinusitis in patients seeking otolaryngologic care. Otolaryngol Head Neck Surg 1995;113:104-9.
5. Ware JE, Sherborne CD. The MOS 36-item short form health survey (SF_36) 1992.
6. Kennedy D. Prognostic Factors, Outcomes and Staging in Ethmoid Sinus Surgery. Laryngoscope 1992;102:1-18.
7. Levine H. Functional Endoscopic Sinus Surgery: Evaluation, Surgery, and follow-up of 250 patients. Laryngoscope 1990;100:78-84.
8. Schaitkin B, May M, Shapiro A. Endoscopic Sinus Surgery: Four year follow-up on the first 100 patients Laryngoscope 1993;103:1117-20.
9. Glicklich RE, Metson R. Effects of Sinus Surgery on Quality of Life. Otolaryngol Head Neck Surg 1997;117:12-17.