

## Letters to the Editor

Dear Sir,

In their paper entitled 'Objective assessment of endoscopic sinus surgery in the management of chronic rhinosinusitis: an update' (*Journal of Laryngology and Otology* 108: 749–753), Lund and Scadding (1994) showed patients with chronic sinusitis improved with endoscopic sinus surgery (ESS), both subjectively (including individual symptoms) and objectively. They pointed out many other authors who focused on the subjective improvement of symptoms without objective tests in the reporting of their results after ESS, consistently obtaining symptomatic improvement in more than 80 per cent of patients.

In recent years, ESS has become popular in the surgical management of chronic sinusitis at the expense of the more traditional Caldwell-Luc operation. One reason for this was due to more recent studies showing that the ostio-meatal complex was the primary focus of disease with the major sinuses being only secondarily involved (Messerlinger, 1994). Functional ESS, involving surgical manipulation directed at the root of the disease, may seem to be more effective than the Caldwell-Luc operation which is directed mainly at the antrum itself. This, together with the frequently quoted anecdotal cases of patients with failed Caldwell-Luc procedures (CWL) who were successfully treated with ESS, may lead to the conclusion by many that patients with chronic sinusitis do not improve after the Caldwell-Luc procedure in practice.

Just before the passing of the era when the CWL procedure was commonly used to treat chronic sinusitis, I had the opportunity to study 55 patients at 12 to 55 months (mean 34 months) after the CWL operation for chronic sinusitis (without associated nasal polyposis) who had failed medical therapy. Of the patients studied, 85.5 per cent reported an overall improvement or cure of their symptoms as a result of the operation. Yarrington (1984) also found most patients had overall symptomatic relief after the CWL operation for chronic sinusitis. The success of the CWL procedure in achieving an overall relief of the symptoms of chronic sinusitis in the majority of patients might have been the justification for its continued use to treat this condition for decades until the development of ESS in recent years.

Although the CWL procedure could lead to overall symptomatic relief in most patients with chronic sinusitis in practise, it is not the intention of this letter to advocate the continued use of the CWL procedure for the surgical treatment for this

condition. This operation, in most hands, carries a high complication rate (Stefanson *et al.*, 1988). Furthermore, individual symptoms such as post-nasal drip may be better relieved by ESS than the more traditional operations for chronic sinusitis (Lund *et al.*, 1991).

The aim of this letter however, is to caution against claiming for presuming that the ESS is more effective than the CWL procedure for treating chronic sinusitis, based solely on the ability to achieve overall symptomatic relief in more than 80 per cent of patients after ESS. Such claims must be substantiated by more quantitative assessments of individual symptoms and by objective tests in controlled studies.

Yours sincerely,

W. K. Low, F.R.C.S.(Ed), F.R.C.S. (Glas),  
Department of Otolaryngology,  
Singapore General Hospital,  
Singapore 0316,  
Republic of Singapore.

Fax: 65-2262079

### References

- Lund, V. J., Holmstrom, M., Scadding, G. K. (1991) Functional endoscopic sinus surgery in the management of chronic rhinosinusitis. *Journal of Laryngology and Otology* 105: 832–835.
- Messerlinger, W. (1994) Background and evolution of endoscopic sinus surgery. *Ear, Nose and Throat Journal* 73: 449–450.
- Stefanson, P., Andreasson, L., Jannert, M. (1988) Caldwell-Luc operation: long term results and sequelae. *Acta Otolaryngologica (Stockholm)* 449: 97–100.
- Yarrington, C. T. (1984) The Caldwell-Luc operation revisited. *Annals of Otology, Rhinology and Laryngology* 93: 380–384.

Dear Sir

We agree with the point made by Mr Low in his final paragraph in that overall symptomatic relief represents only one parameter of success. Notwithstanding any physiological consideration, 84 per cent of patients undergoing inferior meatal antrostomy also consider the operation successful. However, when the results of individual symptoms are considered, following both inferior meatal antrostomy and Caldwell Luc, a significant proportion are either not improved or actually made worse by the procedure (Lund, 1988; Pettila *et al.*, 1994). This has not been our experience with endoscopic surgery in the middle meatus.

Yours sincerely,

Valerie J. Lund, M.S., F.R.C.S., F.R.C.S.(Ed),  
Professor of Rhinology,  
Honorary Consultant ENT Surgeon,  
Royal National Throat, Nose and Ear Hospital,  
330–332 Gray's Inn Road,  
London WC1X 8DA.

#### References

- Lund, V. J. (1988) Inferior meatal antrostomy. Fundamental considerations of design and function. *Journal of Laryngology and Otology Suppl.* **15**: 1–18.  
Penttila, M. A., Rautiainen, M. E. P., Pukander, J. S., Karma, P. H. (1994) Endoscopic versus Caldwell-Luc approach in chronic maxillary sinusitis: comparison of symptoms at one-year follow-up. *Rhinology* **32**: 161–165.

Dear Sir,

#### **Perilymphatic fistula – the challenging enigma Methods of intraoperative diagnosis**

We read with great interest the paper entitled 'Perilymphatic fistula – the value of diagnostic tests' by Podoshin *et al.* (July 1994).

We fully agree with the authors that perilymphatic fistula is, indeed, one of the most challenging problems in otological practice. We also agree, in general terms, with their conclusion that no pre-operative laboratory diagnostic test is truly diagnostic for perilymphatic fistula.

However, the entire article and the following conclusions were based on the intra-operative diagnosis of perilymphatic fistula by visualization of clear fluid from the round or oval window after a Valsava manoeuvre. This method of diagnosis is subjective or even frustrating (Bassiouny *et al.*, 1992; Harvey and Millen, 1994). There is a statistically significant difference in surgeons' rates of positive identification of perilymphatic fistula during surgery (Shepard *et al.*, 1992).

Consequently, the reliability of the surgical observation as the single method for confirmation of the diagnosis of perilymphatic fistula is too low to draw clear conclusions relative to any pre-operative test performance.

We believe that besides the free amino acid test (Schweitzer *et al.*, 1990) which the authors mentioned but did not use, there are several intra-operative tests to help us confirm a perilymphatic fistula, or at least to provide us with a greater possibility of correctly diagnosing it other than by microscopic visualization. We describe two of the intra-operative diagnostic methods which we consider extremely interesting.

Beta 2-transferrin is a protein that is unique to the cerebrospinal fluid, aqueous humor and living human perilymph, while is absent in the normal or inflamed middle ear (Bassiouny *et al.*, 1992; Weber *et al.*, 1994). Therefore, detection of beta 2-transferrin in the middle ear, during surgery, strongly suggests, if not proves, the existence of a perilymphatic fistula.

Electrocochleography is another promising intra-operative method of diagnosis. It is performed by

placing an electrode in one of the window niches and suctioning the area of the other window and vice-versa. Electrocochleography changes (decrease of action potential amplitude, increase of summating potential), during this procedure, suggest the presence of perilymphatic fistula (Ason and Gibson, 1994).

In conclusion, we believe that the only method to persuade the sceptical otolaryngologists, who doubt the incidence of even the very existence of perilymphatic fistula, is to develop, improve and use objective intra-operative methods of diagnosis. Thus, we will be able to better evaluate and improve pre-operative tests, and also to manage and solve the perilymphatic fistula enigma.

Sincerely yours,

Thomas P. Nikolopoulos, M.D., Ph.D.,  
Dimitrios C. Kandiloros, M.D., Ph.D.,  
Electerios A. Ferekidis, M.D., Ph.D.,  
George K. Adamopoulos, M.D., Ph.D.,  
Department of Otolaryngology,  
University of Athens.

#### References

- Ason, S., Gibson, W. P. (1994) Perilymphatic fistula with no visible leak of fluid into the middle ear: a new method of intraoperative diagnosis using electrocochleography. *American Journal of Otology* **15**: 96–100.  
Bassiouny, M., Hirsch, B. E., Kelly, R. H., Kamerer, D. B., Cass, S. (1992) Beta 2 transferrin application in otology. *American Journal of Otology* **13**: 552–555.  
Harvey, S. A., Millen, S. J. (1994) Absent round window reflex: possible relation to step-wise hearing loss. *American Journal of Otology* **15**: 237–242.  
Podoshin, L., Fradis, M., Ben David, J., Gertner, R., Feiglin, H. (1994) Perilymphatic fistula – a value of diagnostic tests. *Journal of Laryngology and Otology* **108**: 560–564.  
Schweitzer, V. G., Woodson, B. T., Mawhinney, T. D., Rarey, K. E., Bauman, M. J., Raymer, S. L., Peterson, E. D. (1990) Free amino acid analysis of guinea pig perilymph: a possible clinical assay for the PLF enigma? *Otolaryngology – Head and Neck Surgery* **103**: 981–985.  
Shepard, N. T., Telian, S. A., Niparko, J. K., Kemink, J. L., Fujita, S. (1992) Platform pressure test in identification of perilymphatic fistula. *American Journal of Otology* **13**: 49–54.  
Weber, P. C., Kelly, R. H., Bluestone, C. D., Bassiouny, M. (1994) Beta 2-transferrin confirms perilymphatic fistula in children. *Otolaryngology – Head and Neck Surgery* **100**: 381–386.

#### Author's reply

Dear Sir,

I read with great interest the letter of Dr. Nikolopoulos *et al.*, and I admit that we did not use the amino acid test (Schweitzer *et al.*, 1990) for confirmation of PLF.

Last year we used intra-operative electrocochleography as Dr. Nikolopoulos has recommended, and we found a great correlation between the changes in action potentials and the visualization of clear fenestral fluid which recurred after suction.

We believe that electrocochleography still has an important place in otological and neurotological