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Discussion

DR. F. GRIFFITH PEARSON (Toronto, Ontario): I enjoyed the presentation of this paper and appreciate the opportunity to review the detailed manuscript in advance of the presentation. There is considerably more information in the complete manuscript. Over the years, many patients with neurological disorders such as post-stroke dysphagia have been operated with little evaluation beyond the assumption that the "simple little" operation of cricopharyngeal myotomy may be helpful. Disappointed patients are at least as common as satisfied customers using this superficial approach. The detailed and sophisticated manometry of swallowing which is described in this paper is little known by most surgeons, and indeed by many gastroenterologists. This type of careful and detail study of the upper esophageal sphincter is not achieved in most esophageal function laboratories because of the rapid sequence of changes which occurs during the brief moment of a swallow. These events occur so quickly that they may not be picked up by standard records. Even more importantly, movement of the larynx and upper esophageal sphincter occurs over several centimeters during the duration of a swallow, which displaces the anatomic relationship between the manometric sensor and the structures such as the upper esophageal sphincter. The authors describe their methodology in detail, and appear to record events which can be measured and interpreted with much more accuracy than in most laboratories. The abnormal mechanics and pressure that they identify in these patients appear to offer a plausible explanation for the presence of dysphagia which is relieved by dividing the cricopharyngeal sphincter in selected cases. Furthermore, similar observations have been reported by Ian Cook and colleagues in New South Wales, Australia. Many of the comments I was going to make have already been made. But I still have trouble understanding exactly where this complicated manometric evaluation fits into the preoperative assessment of these patients. As Dr. Naunheim pointed out, only 13 of your patients had a high opening pressure and high intra-bolus pressures. As I read your manuscript, five patients had completely normal manometric studies. In addition, I think, as I recall the details in the manuscript, there were 15 patients who were offered myotomy and did not undergo the procedure. Is that due to patient refusal or were these patients instructed on the basis of manometric findings, that they might have a satisfactory result?

DR. RODNEY J. MASON (Los Angeles, California): Only five of our patients had a normal manometry study. The outcome was poor in these patients with only two that did well. So it does seem that you can expect to have good results if you can select those patients who have an abnormal manometry study, whereas if you have a normal manometry study you can expect a less favorable outcome.

With regard to the last question we did offer those patients a myotomy. In some of those patients, the insurance company refused to pay for the procedure at our hospital and in others, the patients themselves didn't want to have the operation. So it was a sort of an equal mix with a combination of both patient refusal and insurance refusal.

DR. G. ROBERT MASON (Maywood, Illinois): Dr. Mason, I enjoyed your paper very much. I offer you a question from the past, in that, as you are probably aware, there is a considerable literature relating to the occurrence of Zenker's diverticula and esophageal reflux disease. You probably have a broader experience than most in terms of manometric study of patients with gastroesophageal reflux disease. Have you measured in those same patients the cricopharyngeal pressures and the lower esophageal sphincter pressures? And have you followed any of these patients if you have found an elevated UES pressure and GERO and then performed an anti-rech procedure? The story theoretically is that if you repair the hernia, as Dr. Pearson had mentioned, that you will have some alleviation of the symptoms. If you have not, this would seem to be an interesting project for you. A further question, are any of these patients or were they suffering previously from a diagnosis of globus hystericus.

DR. RODNEY J. MASON (Los Angeles, California): With regard to the longitudinal study of patients with gastroesophageal reflux disease and the development of a Zenkers or cricopharyngeal swallow problem. We haven't really done that study, however I suppose it would be an interesting project. With regard to globus hystericus, some of these patients did have globus hystericus none of the patients we did a myotomy on, had that symptom.

DR. JOHN R. BENFIELD (Sacramento, California): You didn't mention at all the use of intraoperative manometry. Dr. Lucius Hill of Seattle has advocated that and used that quite effectively. I wonder whether you also use introperative manometry. My second question is, what about the nonoperative treatment of cricopharyngeal dysfunction? What has been your experience with balloon dilatation to treat this lesion?

DR. RODNEY J. MASON (Los Angeles, California): As far as intraoperative manometry goes, we don't do intraoperative manometry. We do, however, use a catheter placed in the esophagus that is marked to correspond to the borders of the high-pressure zone that we found during the preoperative study. In other words, we mark where the proximal portion of the high-pressure zone is on a catheter and we place this in the patient's nose intraoperatively. This helps us to localize and identify the beginning and extent of the myotomy we need to perform. We don't actually do any pressure studies intraoperatively. As far as balloon dilatation goes, we have dilated some patients, but the results have been poor. That is basically because a balloon dilatation doesn't improve sphincter opening, as this is a mechanical problem. You can dilate all you like but will only achieve minimal benefit in symptoms, as dilation will not improve the distracting or opening force that these patients need.