The Healing Hand

Thoracic empyema remains a major clinical concern. In addition to the classic parapneumonic empyema developing in the debilitated, elderly, or substance-abuse patient, new risk groups include patients undergoing high-dose chemotherapy, those who are immuno-suppressed following transplantation, or individuals who experience AIDS-related complications. Recent publications underscore the severity of this condition, reporting empyema-associated mortality as high as 20 percent.

Empyema is not a new problem. Treatment performed by the Sumerian asu (physician) was first described in the archives of Assurbinpal, the last great king of Assyria. Incision and drainage was deemed appropriate therapy for empyema necessitatis, which was undoubtedly due to a parapneumonic process in those days. It is interesting to note, however, that conservative measures were more the norm in Mesopotamian civilization. In fact, the Code of Hammurabi (1700 BC) stated that the physician was not to be held responsible for the outcome of these infectious processes unless he chose to employ his knife for their drainage. Given the severity of some penalties for which the asu was at risk in case of misdiagnosis or misadventure during treatment (loss of a hand), it is likely that the asu strongly favored noninvasive therapy except in situations in which the diagnosis was obvious.

During the 4th century BC, Greek physicians (Iōrpos) had advanced the techniques of managing empyema to include early diagnosis, drainage, irrigation, and placement of an indwelling tube, as explained in detail in the Hippocratic treatise, On Internal Diseases. The evolution of these therapies is outlined in glorious detail by Guido Majno in The Healing Hand: Man and Wound in the Ancient World (Harvard University Press, 1975), which is fascinating reading for those interested in the history of medicine.

The ancient Greek techniques for management of empyema became the standard of care for over two millennia. Only with the introduction of basic anesthetic techniques permitting routine survival following open thoracotomy could there occur the introduction of surgical techniques used to manage complications of both bacterial and tuberculous pulmonary infections. Thoracic surgery marked its zenith during the heyday of operative intervention for tuberculosis in the 1930s and 1940s. The introduction of sulfonamides in 1938, streptomycin in 1943, para-amino salicylic acid in 1946, and isoniazid in 1952 led to the gradual decline in surgical therapy for infections, beginning in the middle of this century.

The past 20 years have witnessed the identification of a host of common new pulmonary infections including Legionnaires' disease, Pneumocystis carinii, and cytomegalovirus, to name but a few. The current decade has also seen the development of new diagnostic modalities, including transbronchial biopsy and bronchoalveolar lavage (BAL). The introduction of new therapeutic modalities, particularly unique antibacterial, antifungal, and antiviral agents, is a major advance in the treatment of these infectious problems. While new antibiotics often show improved, if short-lived, efficacy in treating pulmonary parenchymal infections, we must remember that antibiotic treatment is not adequate initial therapy for empyema. Recent studies illustrate the lack of adequate penetration of certain antibiotics in pleural empyema fluid. Indeed, even the initial management of pediatric empyema, once thought to be highly sensitive to simple drainage and antibiotic administration, is undergoing change to include more aggressive surgical management in selected patients.

Disturbing developments in the routine management of empyema include longer delays prior to definitive therapy and the introduction of new invasive techniques for drainage, such as catheter placement using Seldinger technique and thoracoscopy with irrigation to break down loculations in complicated empyema. These new modalities must not supplant early and adequate operative intervention when indicated. A variety of recent reports underscore the usefulness of early thoracotomy in the treatment of empyema. Although simple drainage and antibiotic therapy remain the norm, an enlarging group of patients, particularly those with complicated or post-operative empyema, will require aggressive surgical
intervention. Early recognition of these patients and institution of surgical intervention as primary therapy rather than as a last resort will likely result in improved survival and shortened hospital stay.

Failure to consider aggressive surgical intervention for empyema, particularly in patients for whom such therapy provides the best prognosis, is not in keeping with current standards of clinical practice. The Code of Hammurabi no longer applies—physicians should be held responsible for their actions even when not wielding the knife in the management of their patients.

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REFERENCES

Speech Changes following Uvulopalatopharyngoplasty Complication or Acceptable Results?

Surgical intervention for obstructive sleep apnea (OSA) can have inherent risks. Generally, the benefits of airway clearance outweigh these risks. Occasionally, there can be a narrow line between an expected result (benefits) and a surgical complication (risks). This may be particularly true of uvulopalatopharyngoplasty (UPPP) which is the most common surgical intervention for OSA at the pharyngeal level. Treatment of this region can potentially alter the functions of speech and swallowing resulting in nasal regurgitation, dysphagia, and abnormal speech changes.

The article in this issue by Salas-Provance and Kuehn (see page 111) suggests that in a series of patients who had undergone UPPP, discernible speech abnormalities were noted in 11 of the 15 patients (73 percent) examined. The remaining four patients were identified as having normal speech. These findings, reported by two experienced speech pathologists, in matched controls are impressive, but not totally unexpected. Their study was a retrospective one without benefit of preoperative speech evaluation; hence, the findings may not reflect actual changes in speech secondary to surgery. Patients with significant OSA usually have redundant pharyngeal tissues and enlarged tongue bases which volumetrically alter the airway and possibly the resultant speech resonance. In these patients, airway obstruction is progressive, insidious, and the abnormal resonate effects of soft tissue excess may go unnoticed by the patient, relatives and friends. In fact, Monoson and Fox evaluated speech in OSA patients prior to any treatment and suggested that disordered speech may be found more commonly than expected and additionally could be a sign of OSA. The possibility should be considered that Salas-Provance and Kuehn's patients may have exhibited abnormal speech patterns before surgery due to their OSA. This abnormal speech could have persisted after surgery due to soft tissue obstruction occurring in areas not treated or unsuccessfully treated by the traditional UPPP procedure. It would have been interesting to have seen the pre- and postoperative sleep studies of each of their patients, especially the four who were identified as having normal speech postoperatively. These four patients may have achieved airway clearance secondary to the surgery with appropriate volumetric changes and thus normal speech. One wonders if they might also demonstrate a greater reduction in obstructive apneas than the 11 patients with abnormal speech postoperatively. Their article does support the theory that velopharyngeal function is not significantly altered. Comments concerning pain and dysphagia would be expected temporary surgical results, and hence, should not have been considered a complication unless chronically persistent. The hypothesis of dryness causing speech changes is interesting, however conjectural, and would require further investigation.

There is evidence to support the fact that persistent abnormal speech which could be considered a complication is infrequent after UPPP.Zohar et al reported definite changes in speech after UPPP during r phonations in seven of 57 (12 percent) OSA patients, but no significance was ascribed to this clinical finding. A recent study by Fairbanks assesses 72 US university centers over a nine-year period where UPPP was performed. Only seven patients were reported with permanent postoperative speech problems. Fujita reported no speech complications in over 500 operations. Our practice has now over 400 cases with similar findings.

This is not to suggest that subtle speech changes