eComment: Optimal exposure for debridement of necrotizing mediastinitis and bilateral empyema thoracis

Authors: Frank Edwin, National Cardiothoracic Centre, Korle Bu Teaching Hospital, PO Box KB 846, Korle Bu, Accra, Ghana; Mark M. Tettey, Martin Tamatey, Kwabena Frimpong-Boateng

doi:10.1510/icvts.2009.202226A

Chang and Chen’s report [1] has added another treatment option to the management of a very challenging clinical problem and we congratulate them. Necrotizing mediastinitis tends to be a fulminant and rapidly progressive disease with high mortality. The variety described by the authors is very rare indeed. Mediastinal pseudocysts are supposedly caused by tracking of pancreatic fluid from the retroperitoneum through diaphragmatic openings, most commonly the esophageal and aortic hiatuses. Being rich in digestive enzymes, bacterial superinfection results in a fulminant necrotizing mediastinitis. The infection is typically polymicrobial in a milieu of necrotizing fascitis; the synergistic action of aerobic and anaerobic organisms may explain the virulence of the mediastinitis.

The extent of the disease in their patient required mediastinal and bilateral pleural space debridement and not only simple drainage of collections. The need for optimal surgical exposure to accomplish these goals is obvious.

With the experience gained from management of descending necrotizing mediastinitis, conventional surgical techniques would suggest either sternotomy or the clamshell incision since conventional thoracotomy alone does not provide sufficient exposure of both pleural spaces.

Median sternotomy is increasingly used for removal of mediastinal tumors and resection of bilateral pulmonary disease [2]. The limitations of median sternotomy in this setting include the limited access to the posterobasal aspects of the chest cavity, especially on the left side, and the risk of sternal osteomyelitis and sternal dehiscence [2].

The clamshell incision constitutes an improved surgical approach for the management of bilateral pulmonary or combined pulmonary and mediastinal diseases with minimal morbidity [3]. However, this approach is particularly invasive in these critically ill patients and exposes them to the risk of phrenic nerve palsy and sternal osteomyelitis [4]; it is probably ill-advised in the late stages of necrotizing mediastinitis with overwhelming sepsis, profound septic shock and disseminated intravascular coagulopathy.

Video-assisted thoracoscopic surgery (VATS) as used by Chang and Chen [1] serves as a very useful and far less invasive alternative in such critically ill patients and is likely to emerge as a dominant tool in the surgical armamentarium for dealing with such challenging clinical problems. At our institution, we recently expanded our service with the introduction of VATS and are therefore, encouraged by the expansion in the indications of this useful tool such as has been demonstrated by Chang and Chen [1].

References