



VIDEO-MEDIASTINOSCOPIC MANAGEMENT OF DESCENDING MEDIASTITIS

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Historically, the frequently used phrase “descending necrotizing mediastinitis (DNM) is the disease with highest mortality ranged between 40 and 90%” is related to older publications during 90’s and 00’s. More recent papers (2011-present), in spite of the low case load, have shown substantial progress in management of this potentially lethal condition with mortality rate fallen down to less than 10%. Most of the mortality was associated with odontogenic cause of DNM and sepsis. We retrospectively analyzed our experience in management of DNM during 2015 – 2021 years. We collected 19 patients (male:female = 10:9) with age range 28 – 67 years. Maxillo-facial inflammatory diseases (12), tonsillitis (4), sterno-clavicular joint arthritis (1) and perforated cancer of the piriform sinus of the throat and locally relapsed maxillary sarcoma (1) were the causes of DNM. 6 patients had a confirmed positive blood cultures and required inotropic pressure support.

All 19 patients had different degree of deep neck infection treated with surgical debridement. We did not close the neck after debridement but complete the procedure with Vacuum Assisted Closure (VAC) gauze placement. We started continuous mode VAC therapy with -125 mm Hg followed by intermittent mode with improvement of the local status of neck tissues.

Location and extent of mediastinal involvement by infection were as follows:

upper anterior – 2,

upper posterior – 4,

upper + lower anterior – 1,

upper anterior + posterior – 2,

upper + lower posterior – 8,

upper anterior + upper and lower posterior – 2.

Cervical video-mediastinoscopy (CMS) was performed in all the patients to evaluate, debride and drain superior compartments of mediastinum. In one patient with mediastinitis involved the whole anterior mediastinum, CMS was combined with subxiphoid mediastinoscopy.

All the patients with posterior lower mediastinitis and those with pleural empyema received VATS debridement of empyema and mediasinotomy during the same procedure. Combination of minimally invasive surgical procedures, CMS and VATS, with VAC therapy allowed us to achieve zero mortality in this complex cervico-thoracic infectious disease. Limited number of cases treated during relatively long time period of study has not allowed us to make a solid statistically based conclusion. However, all the proven advantages of minimally invasive thoracic surgery over the open approach could be extrapolated to this hard-to treat group of patients with achievable low mortality rates.

Selected references.

1. Zielinski M., Rami-Porta R., Eds. *The Transcervical Approach in Thoracic Surgery*. Springer-Verlag. 2014. P. 152-3.
2. Freeman RK, Vallières E, Verrier ED, Karmy-Jones R, Wood DE. Descending necrotizing mediastinitis: an analysis of the effects of serial surgical debridement on patient mortality. *J Thorac Cardiovasc Surg*. 2000;119(2):260–267.
3. Pearse HE. Mediastinitis following cervical suppuration. *Ann Surg*. 1938;108(4):588–611.
4. Palma DM, Giuliano S, Cracchiolo AN, et al. Clinical features and outcome of patients with descending necrotizing mediastinitis: prospective analysis of 34 cases. *Infection*. 2016;44(1):77–84.
5. Gujrathi AB, Ambulgekar V, Kathait P. Deep neck space infection – a retrospective study of 270 cases at tertiary care center. *World J Otorhinolaryngol Head Neck Surg*. 2016;2(4):208–213.