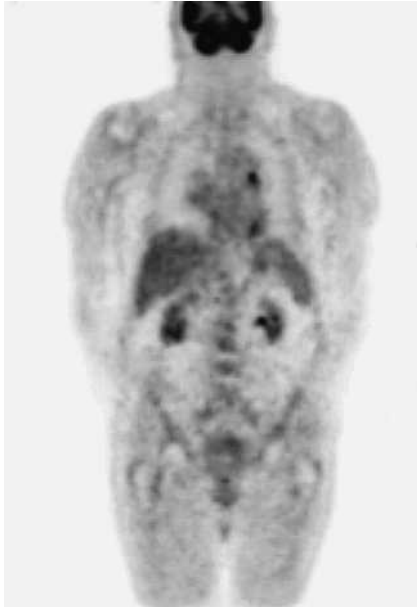


## *Gemella morbillorum* mediastinitis and osteomyelitis following transesophageal endoscopic ultrasound-guided fine-needle aspiration of a posterior mediastinal lymph node

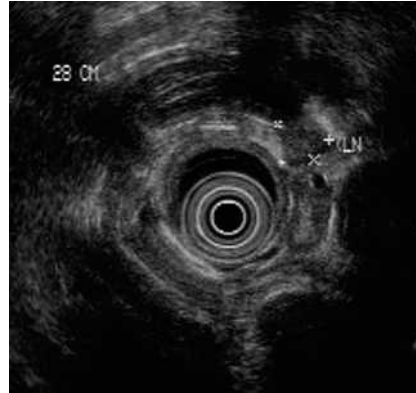


**Figure 1** Positron-emission tomographic (PET) scan showing increased activity in the left mediastinum.

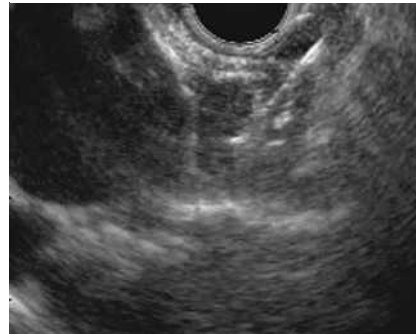


**Figure 2** Computed tomographic scan showing an 8.4-mm-diameter lymph node in the posterior aortopulmonary window, corresponding to the region of increased PET activity.

A 78-year-old man with a history of colon cancer was found on follow-up examinations (abdominal computed tomography and positron-emission tomography scans) to have an 8-mm posterior aortopulmonary-window lymph node that was suspected to be malignant (Figure 1, Figure 2). Radial endoscopic ultrasound (EUS) revealed a 10-mm lymph

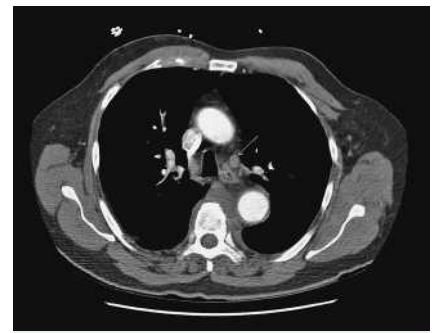


**Figure 3** Radial endoscopic ultrasound view showing a left posterior aortopulmonary-window lymph node measuring 10 mm in diameter and located 28 cm from the incisors.



**Figure 4** Transesophageal endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) of the posterior aortopulmonary lymph node.

node in the posterior aortopulmonary window (Figure 3). Transesophageal EUS-guided fine-needle aspiration (FNA) was performed with five passes, using a 22-gauge needle (Figure 4). No antibiotic prophylaxis was given. There were no immediate complications. Cytological examination subsequently revealed this to be benign lymphoid tissue. Five days later, the patient developed chest pain, fevers, and an elevated white blood cell count. Chest computed tomography revealed inflammatory changes in the posterior mediastinal fat abutting the T5–T7 vertebral bodies (Figure 5). Four sets of blood cultures grew *Gemella morbillorum*. Thoracic spine magnetic



**Figure 5** Computed tomographic scan showing posterior mediastinal inflammatory changes extending from the posterior aortopulmonary lymph node (arrow), which had undergone EUS-FNA, to the vertebral bodies at the same level. Note the new inflammatory changes anterior to the vertebral body, which has displaced the aorta to the left.



**Figure 6** Magnetic resonance imaging scan showing vertebral disk destruction at level T5/6. There is also increased signal in T5 and T6, consistent with osteomyelitis.

resonance imaging 6 weeks after the EUS-FNA revealed diskitis and osteomyelitis at T5/6 (Figure 6). The patient was successfully treated with intravenous ceftriaxone for a total of 12 weeks, and then with oral amoxicillin for several months until all the symptoms and radiographic changes had resolved.

This is the first reported case of transesophageal EUS-FNA of a posterior mediastinal lymph node causing mediastinitis and osteomyelitis. The mediastinitis was probably caused by seeding of the target lymph node by an FNA needle contaminated by *G. morbillorum*, a facultative, anaerobic, aerotolerant, Gram-positive coccus which is a natural inhabitant of the human oropharynx [1].

Table 1 summarizes the clinical details of the seven previously reported cases of mediastinitis caused by transesophageal EUS-FNA, as well as this present case [2–

Table 1 Reported cases of mediastinitis as a complication of transesophageal endoscopic ultrasound-guided fine-needle aspiration (FNA)

Author(s) [ref. no.]	Year	Lesion biopsied	FNA or Trucut	Antibiotics	Complications	Management
Ryan et al. [2]	2002	Cyst	FNA	Yes	Incidental <i>Candida</i> organisms found at resection	Thoracotomy
Wildi et al. [3]	2003	Cyst (solid-appearing)	FNA and Trucut	No	Mediastinitis and sepsis	Thoracotomy
Annema et al. [4]	2003	Cyst	FNA	No	Mediastinitis ( <i>Streptococcus pneumoniae</i> )	Thoracotomy
Westerterp et al. [5]	2004	Cyst (solid-appearing)	FNA	No	Mediastinitis	Endoscopic fenestration
Varadarajulu et al. [6]	2004	Cyst	Trucut	No	Mediastinitis	Thoracotomy
Pai & Page [7]	2005	Mass (teratoma)	FNA	No	Mediastinitis	Thoracotomy
Will et al. [8]	2005	Lymph node (malignant)	FNA	No	Mediastinitis and esophago-mediastinal fistula	Endoscopic treatment and antibiotics
Savides et al.	2006	Lymph node (benign)	FNA	No	Mediastinitis and osteomyelitis ( <i>Gemella morbillorum</i> )	Antibiotics

8]. Five of these were mediastinal cysts, and this has led to the recommendation that EUS-FNA should be avoided in cases where there is clearly a posterior mediastinal cyst, and that antibiotics should be given if an unsuspected cyst is aspirated. Two of these cases reported mediastinitis after EUS-FNA of mediastinal lymph nodes.

Endosonographers should be aware that mediastinitis can occur after transesophageal EUS-FNA of any solid posterior mediastinal lesion, and not only where the lesion is cystic.

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## Bibliography

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