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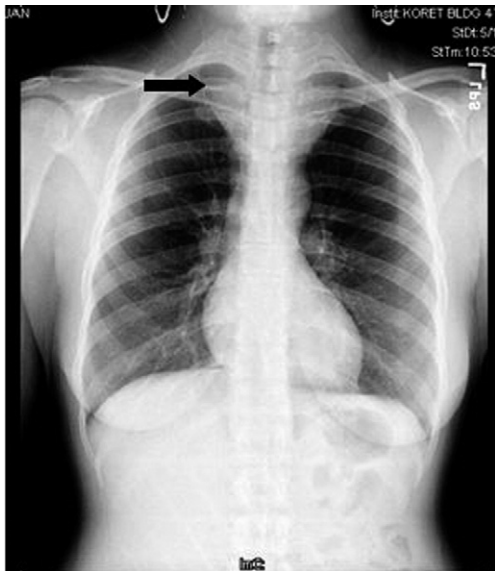
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**Figure 1.** Large anterior neck mass, facial fullness, and distended superficial veins on the chest wall (arrow).



**Figure 2.** Superior mediastinum mass (arrow).



**Figure 3.** Chest computed tomography with intravenous contrast in the right side of the anterior chest (arrow). Used with permission of Jonathan Rosenson, MD, Department of Emergency Medicine, Alameda County Medical Center/Highland Hospital, Oakland, CA.

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A 43-year-old woman presented to the emergency department with several weeks of neck pain and swelling, low energy, cold intolerance, and unintentional weight loss. Medical history was unremarkable. Physical examination results were notable for a large anterior neck mass, facial fullness, and distended superficial veins on the chest wall (Figure 1, arrow). Chest radiography revealed a superior mediastinum mass (Figure 2, arrow). Chest computed tomography with intravenous contrast demonstrated abnormal signal in the right side of the anterior chest (Figure 3, arrow).

*For the diagnosis and teaching points, see page 314.*

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higher dose of fentanyl. Both medications had low rates of adverse events, which were easily controlled.

**Comment:** *The authors of this before-and-after study looked to determine if fentanyl and morphine were effective in the management of pain in the prehospital arena. Following a protocol change to fentanyl administration, they also compared adverse events associated with the two narcotics. Though not statistically significant, the fentanyl group started off with more pain and had a greater reduction in that pain. The authors describe that the patients in the fentanyl group received more morphine-equivalents, but it seems that the patients may have received more adequate dosing. Fentanyl and morphine are each*

*effective pain medications and have a place in the prehospital formulary. When transports are prolonged, a longer acting medication, ie, morphine, is more appropriate. The most important take-home point from this study is that adequate pain medication should be the standard of care, while attempting to minimize adverse events. Having medical directors that enable the competent and experienced caregiver to provide the suitable drugs is the right step.*

*Eric C. Bruno, MD*

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## IMAGES IN EMERGENCY MEDICINE

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### DIAGNOSIS:

*Superior vena cava syndrome.* The patient had a large substernal thyroid mass compressing the superior vena cava and right subclavian vein. Intravenous contrast is observed in the collateral veins on the right side of the chest wall on chest computed tomography (Figure 3). First described in 1757, superior vena cava syndrome results from internal or external obstruction of venous return through the superior vena cava.<sup>1</sup> Before widespread use of antibiotics, infections such as syphilitic aortic aneurysm and infectious complications such as fibrosing mediastinitis were frequent causes of the superior vena cava syndrome.<sup>2</sup> In the past 50 years, malignancies such as non-small-cell and small-cell lung cancer, lymphoma, thymoma, and metastatic lesions have accounted for the majority of cases of superior vena cava syndrome.<sup>3</sup> Nonmalignant causes of superior vena cava syndrome include superior vena cava thrombosis from intravascular devices or teratoma and, as in this case, thyroid masses. Treatment is aimed at debulking the obstructing lesion and treating the underlying disease process.<sup>4</sup> This patient underwent total thyroidectomy, with subsequent resolution of her symptoms.

### REFERENCES

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