

How I Do It

Vacuum-Assisted Closure for Managing Neck Abscesses Involving the Mediastinum

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A 57-year-old immunocompetent male patient with a deep neck abscess involving the mediastinum was referred to us following unsuccessful treatment at his local hospital with medical therapy and ultrasound-guided aspiration. After initial evaluation and resuscitation, a contrast-enhanced computed tomography (CT) scan was performed, and the patient was transferred for surgical drainage. A vacuum-assisted closure (VAC) device was used as a surgical drain to help prevent reaccumulation of the purulent collections. A repeat CT scan on day 3 confirmed the absence of residual pus in the mediastinum and in the neck spaces, and the VAC device was removed. Perfect healing of the deep tissues with successful mediastinal toilette was observed. The patient resumed oral meals on postoperative day 10, and 2 days later he was discharged. A 1-month follow-up CT again demonstrated the complete healing and absence of the neck abscess. This case illustrates the possibility of avoiding more extensive and life-threatening procedures, such as open thoracotomy, in the treatment of neck abscesses extending into the mediastinum, and highlights the utility of VAC in the management of deep neck abscesses.

Key Words: Neck abscess, mediastinitis, vacuum-assisted closure, infection.

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INTRODUCTION

Deep neck infection is a serious and potentially life-threatening clinical condition. The main complications include: respiratory obstruction, mediastinitis, pleural empyema, pericarditis, major venous thrombosis (Lemierre syndrome),¹ and septic shock. The mortality of such conditions is very high, reaching 40% to 50%.^{2,3} Infection spreading toward the mediastinum occurs along the deep cervical fascia and is facilitated by gravity and negative intrathoracic pressure during respiration.⁴

Surgical drainage of purulent material, with debridement of necrotic tissue together with systemic antibiotic administration is recommended. Nevertheless, especially in complicated cases, several revisions of the surgical field are required and even recommended by some authors.^{2,3,5} To the best of our knowledge, no use

of a vacuum-assisted closure (VAC) device has been previously described in the postoperative management of neck abscess with mediastinal involvement.

We report our experience with one patient presenting an extended deep neck abscess involving the superior mediastinum, in which the application of a vacuum-assisted closure device (V.A.C. Via Therapy System; Kinetic Concepts Inc., San Antonio, TX) was successfully used instead of common drainage tubes after surgical evacuation. A VAC device promotes wound healing by delivering negative pressure (a vacuum) at the wound site through a patented dressing, which helps draw wound edges together, remove infectious materials, and actively promote granulation at the cellular level.

CASE REPORT

A 57-year-old immunocompetent male patient was referred to our institution with a deep neck abscess involving the upper part of the mediastinum. This patient was referred from a peripheral hospital where he had been admitted 10 days earlier with a peritonsillar and neck abscess on the right side. He underwent unsuccessful attempts to drain the neck abscess by ultrasound-guided aspiration, and during the last of these procedures he developed acute hemorrhaging with sudden-onset upper airway obstruction. He was quickly intubated and referred to our tertiary care center, which

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