

The Incidence of Infection after Posterior Cervical Spine Surgery: A 10 Year Review

Matt Barnes¹, Sue Liew²

- ¹Department of Orthopaedic Surgery, Austin Hospital, Heidelberg, Victoria, Australia
- ²Department of Orthopaedic Surgery, Alfred Hospital, Prahran, Victoria, Australia

Abstract

Background The incidence of infection after posterior cervical spine surgery ranges from 0 to 18%. Higher rates have been reported after posterior procedures compared with anterior procedures, but these studies have been for small series. We report on our rate of surgical site infection (SSI) after posterior cervical spine surgery and the risk factors that influence these infections.

Methods We retrospectively reviewed the records of 90 consecutive patients who underwent posterior cervical spine procedures at a major spinal referral center between 1998 and 2007. The main indications for surgery were trauma and degenerative conditions. Tumors and primary infections were excluded. Medical records of these patients were examined for evidence of SSI as diagnosed by Centers for Disease Control and Prevention criteria.

Results Using stringent criteria for diagnosing SSI, we found 15 infected patients (16.67%). The postoperative use of a Philadelphia hard collar was found to be a significant risk factor for SSI with a relative risk of 15.30 (95% confidence interval 2.10 to 111.52). Almost half of infected patients (47%) required reoperation for wound debridement, with four requiring skin flap closure. All 15 patients had successful outcomes with complete resolution of their infection.

Conclusions This study confirms a high incidence of SSI after posterior cervical surgery. The most significant risk factors for SSI were found to be a traumatic etiology and postoperative use of a collar. We believe it is important to develop strategies to minimize

the risk of infection after posterior cervical surgery, which include questioning the postoperative use of collars.

Keywords

cervical vertebrae - spinal fusion - surgical site infection - orthotic devices

頸椎後路手術後感染的發病率：10 年回顧

背景 - 頸椎後路手術後感染的發病率為 0 至 18%。過往有研究發現後路手術後感染的發生率比前路手術高，但這些研究都是屬於小型系列。我們會報告頸椎後路手術後手術部位感染 (SSI) 率和影響這些感染的風險因素。

方法 - 回顧性分析連續 90 位於 1998 年至 2007 年間在一個主要的脊骨轉介中心接受了頸椎後路手術的病人紀錄。手術的主要徵象為創傷和退化性疾病。腫瘤和原發感染則被排除。根據疾病控制和預防中心的診斷標準, 這些患者的醫療記錄都進行了檢查以確定是否出現 SSI 的跡象。

結果 - 使用診斷 SSI 的嚴格標準, 我們發現 15 個感染病例 (16.67%)。研究發現手術後使用的費城硬頸圈是引致 SSI 的其中一個重要風險因素, 相對風險度為 15.30 (95% 置信區間為 2.10 至 111.52)。幾乎有一半的感染患者 (47%) 需再次進行清創手術, 其中四位需要進行皮瓣縫合手術。所有 15 位患者都有成功的結果而且感染都能完全康復。

結論 - 這項研究證實了頸椎後路手術後很高的 SSI 發病率。最重要的導致 SSI 的風險因素是創傷性病因及於手術後使用頸圈。我們相信發展相應的對策以減少頸椎後路手術後感染的風險是很重要的, 其中包括是否應該於手術後使用頸圈。