

The Incidence of Bifid C7 Spinous Processes

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Abstract

For posterior cervical surgery, if the operation only involves the lower cervical area, counting from C2 is impractical and the level may not be visible on X-rays. In such cases, we usually place a marker at the top of the incision and also rely on the size and monofid shape of the C7 spinous process. Relying on the C7 morphology, however, we initially instrumented the wrong levels in a case where the patient had a bifid C7 spinous process. We therefore sought to determine the frequency of bifid cervicothoracic spinous processes. Computed tomography axial images of C6, C7, and T1 from 516 patients were evaluated. The spinous processes were classified into three categories: “bifid,” “partially bifid,” and “monofid.” C6 spinous process was monofid in 47.9% of cases, partially bifid in 4.2% of cases, and bifid in 47.9% of cases. C7 spinous process was monofid in 99.2% of cases, partially bifid in 0.5% of cases, and bifid in 0.3% of cases. T1 was monofid in all cases. A truly bifid C7 spinous process occurs 0.3% of the time and therefore is not a reliable landmark for choosing fusion levels. This knowledge hopefully helps prevent the type of wrong-level instrumentation that we performed.

Keywords

posterior cervical surgery - spinous process - morphology - monofid - bifid - frequency - wrong-level surgery - cervicothoracic

雙分叉 C7 棘突的發病率

頸椎後路手術，如果手術只涉及下頸椎部份，由 C2 開始計算是不實際而且在放射線檢查中可能見不到該節段。在這種情況下，我們一般會在切口的頂部放置一個標記，並依靠 C7 棘突的大小和單支的形狀。根據 C7 的形態，然而，因為患者有雙分叉 C7 棘突，我們起初固定了錯誤的節段。因此，我們嘗試確定雙分叉頸胸棘突頻率。我們評估了 516 名患者的 C6，C7 和 T1 的電腦掃描軸向圖片。棘突分為三類：“雙分叉”，“部分分叉”和“單支”。單支的 C6 棘突佔 47.9%，部分分叉佔 4.2%，雙分叉佔 47.9%。2 裂。單支的 C7 棘突佔 99.2%，部分分叉只在 0.5%，雙分叉佔 0.3%。T1 在所有情況下都是單支的。真正的雙分叉 C7 棘突的發生率是 0.3%，因此這不是可靠標記以選擇融合的節段。希望這方面的知識有助於防止固定了錯誤的節段。