

Functional Outcomes, Morbidity, Mortality, and Fracture Healing in 58 Consecutive Patients with Geriatric Odontoid Fracture Treated with Cervical Collar or Posterior Fusion

Abstract

Controversy exists as to the most effective management option for elderly patients with type II odontoid fractures. The purpose of this study is to evaluate outcomes associated with rigid cervical collar and posterior fusion surgery. Patients with $\geq 50\%$ odontoid displacement were treated with posterior fusion surgery including C1-2 (PSF group, $n = 25$, average age = 80 years). Patients with $< 50\%$ odontoid displacement were treated with a rigid cervical collar for 12 weeks (collar group, $n = 33$, average age = 83 years). These inhomogeneous groups were followed for an average of 14 months. Fracture healing rates were higher in the operative group (28% versus 6%). Neck Disability Index scores were slightly lower in the nonoperative group (13 versus 18.3, $p = 0.23$). Analogue pain scores were also slightly lower in the nonoperative group (1.3 versus 1.9, $p = 0.26$). The mortality rate was 12.5% in the collar group and 20% in the operative group. Complications were higher in the operative group (24% versus 6%). Rates of type II odontoid fracture healing and stability appear to be higher in geriatric patients treated with posterior fusion surgery. Fracture healing and stability did not correlate with improved outcomes with respect to levels of pain, function, and satisfaction. Mortality and complication rates are lower in those patients with lesser-displaced fractures who are treated with a cervical collar and early mobilization.

58 宗以頸托或後路融合術治療的老年齒狀突骨折的功能性結果，發病率，死亡率和骨折癒合

對 II 型齒狀突骨折的老年患者最有效的治療選項存在爭議。本研究的目的是評估使用硬性頸托和後路融合術的結果。齒狀突移位 $\geq 50\%$ 的患者以後路融合術治療並包括 C1-2（PSF 組，n= 25 人，平均年齡 80 歲）。齒狀突移位 $< 50\%$ 的患者以硬性頸托治療 12 週（頸托組，n=33 人，平均年齡 83 歲）。這些不同類的組別平均跟進 14 個月。手術組的骨折癒合率比較高（28%比 6%）。非手術組的頸部殘疾指數分數稍低（13 比 18.3， $p = 0.23$ ）。非手術組的模擬疼痛評分也稍低（1.3 比 1.9， $P = 0.26$ ）。在頸托組的死亡率為 12.5%和手術組的 20%。手術組的並發症比較高（24%比 6%）。以後路融合手術治療的 II 型齒狀突骨折老年患者的癒合和穩定也比較高。骨折癒合和穩定性與疼痛程度，功能和滿意度的改善結果並沒有關連性。那些以頸托治療和及早動員的移位較小的骨折患者，他們的死亡率和並發症率較低。