Journal Review II

By Ron Feise, DC

Blindness After Surgery Not Infrequent

Delattre O, Thoreux P, Liverneaux P, Merle H, Court C, Gottin M, Rouvillain JL, Catonné Y. Spinal surgery and ophthalmic complications: a French survey with review of 17 cases. *J Spinal Disord Tech* 2007;20:302-7.

SYNOPSIS: This was a cross-sectional study that investigated risk factors associated with ocular complication after spine surgery. A survey was sent to all French orthopedic centers specializing in spine surgery requesting information regarding any patients who had experienced visual deficits after spine surgery. Seventeen patients experienced ocular complication. Eleven had no recovery of vision, 6 had partial recovery, and 1 had full recovery.

RESEARCH QUALITY: Overall, this study had reasonable methodological rigor.

Quality Details: This study used the following: 1) an appropriate design for the study question; 2) a survey instrument with face validity; 3) a suitable sample frame; 4) a described sampling process; 5) census sampling; 6) an adequate response rate; and 7) failure to follow up on non-responders.

CONCLUSION: Blindness is a serious adverse event following spinal surgery.

COMMENTS: *Blindness after spine surgery is a devastating complication, and it is more common than previously recognized.[1] Stevens identified 7 ophthalmic complications in a series of 3,450 spinal surgery procedures (incidence rate 0.2%).[3] Roth has measured the incidence of postoperative visual loss after spine surgery at 1 in 1,100 (incidence rate 0.1%).[2] Patients need to be aware of this serious complication.*

Warning. Healthcare professionals should not automatically use information from research studies (especially abstracts) to make decisions about patient care because health care literature suffers from inconsistent quality and frequently distorts research findings. To improve the likelihood of applying valid/appropriate research conclusions to practices and to avoid invalid/inappropriate research findings, health care professionals should use reviews that apply the following model: **C**ritical **A**ppraisal & **P**revious **R**elevant **E**vidence (**CAPRE**). Reviewers using this model do the following: 1) assess the quality of the research methods used within the study under review to determine the level of bias, if any, and the impact of bias on the study's conclusion; 2) formally report on the quality (If a study doesn't report the quality of the research, a quality assessment was not performed); and 3) connect the present study with previously published research by formally discussing the research conclusions of the present and previous studies. ■

This review is an excerpt from Direction of the Evidence*, published by the Institute of Evidence-Based Chiropractic, whose aim is the integration of science into chiropractic practice in order to improve patient outcomes. Dr. Feise can be reached at rjf@chiroevidence.com.*

References

1. Myers MA, Hamilton SR, Bogosian AJ, Smith CH, Wagner TA. Visual loss as a complication of spine surgery. A review of 37 cases. *Spine* 1997;22:1325-9.

2. Roth S, Barach P. Postoperative visual loss. Still no answers—yet. Editorial views. *Anesthesiology* 2001;95:575-577.

3. Stevens WR, Glazer PA, Kelley SD, Lietman TM, Bradford DS. Ophthalmic complications after spinal surgery. *Spine* 1997;22:1319-24.