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IS AGE ASSOCIATED WITH INCREASED COMPLICATION RATES IN CERVICAL SPINE SURGERY? A REVIEW OF 11,765 CASES FROM THE SCOLIOSIS RESEARCH SOCIETY DATABASE 2004-2007

Introduction/Aim

Increasing life expectancy and advances in medical sciences have led to more aggressive treatments being offered to the elderly including spine surgery. A few studies have identified advanced age as a risk factor to develop complications following spinal surgery, however these reports are often limited by relatively small number of study subjects.

Materials and Methods

The Scoliosis Research Society Morbidity and Mortality database was queried for all cervical spine surgeries from 2004-2007. Patient demographics, diagnoses, and complications were analyzed. Two-tailed t-test and chi-square test were performed.

Results

Of 11,765 patients, 427 (3.63%) had complications. Patients with complications were on average 4.4 years older (55.7 vs. 51.3, $p<0.001$). Mortality was 0.16%. Patients who died were on average 14.7 years older than those who did not have complications (66.0 vs. 51.3, $p<0.001$). There was a trend towards increasing complication rates with increased age across all diagnoses. Patients with cervical disc herniation greater than 60 years old were 2.02 times more likely to experience complications ($p=0.028$). Patients with cervical stenosis experiencing complications were significantly older compared to those that did not experience complications (59.2 vs 56.9, $p<0.001$), and those older than 60 were 1.32 times more likely to experience complications ($p=0.05$). Patients with spondylotic radiculopathy with perioperative complications were significantly older than those who did not experience complications (55.2 vs 52.5, $p=0.02$).

Discussion

Conclusion

Advanced age was associated with increased complication rates including mortality following cervical spine surgery. Other factors such as diagnoses and patient comorbidities may also influence surgical outcome and merit further investigation.