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NON-OPERATIVE TREATMENT MODALITIES PRIOR TO CERVICAL SURGERY AFFECT PATIENT OUTCOMES: AN ANALYSIS OF 1818 PATIENTS

Introduction/ Aim

Effects of non-operative treatment prior to surgery on operative data, patient reported outcomes, and complication rates were investigated.

Materials and Methods

A retrospective review of a prospectively-collected database, for 1-2 level surgical cervical pathology patients with $\leq$ Grade 1 Spondylolisthesis, was performed. Baseline demographics, comorbidities, and non-operative modalities were collected. Patients were grouped based on pre-operative conservative treatment use (NoT vs PrT). Pre-operative epidural steroid injections, physical therapy, and narcotics use was sub-analyzed. Primary outcomes measures were baseline and 2-year post-operative HRQOL scores (SF-36 and NDI), operative data, and complication rates.

Results

A total of 1818 patients (757 NoT vs 1061 PrT) were identified. Common non-operative modalities included narcotics (36%) physical therapy (35%), and NSAIDs (35%). PrT patients were younger (52.3 vs 50.6 years, $p<0.01$) with fewer previous cervical surgeries (21.7 vs 13.2%, $p<0.01$). PrT had higher baseline SF36 PCS scores (33.2 vs 35.8, $p<0.01$), shorter surgeries (135 vs 122min, $p<0.01$) and hospitalization (49 vs 37hr, $p<0.01$), and lower CSF leak rates (1.4 vs 0.2%, $p<0.01$). At 2 years, PrT has significantly higher SF36 PCS (36.6 vs 39.1, $p<0.01$) and MCS (40.2 vs 42.7, $p=0.03$) scores. Epidural injections were associated with a mean decrease in SF36 MCS score (-2.54, $p=0.042$) in the sub-analysis.

Discussion

Preoperative conservative treatments were associated with shorter surgical and hospitalization length, less CSF leaks, and improved 2-year SF36 scores. Only epidural steroid injections were associated with improved SF36 MCS scores. These factors should be considered in patient counseling efforts and warrant further research.

Conclusion

Patients who underwent conservative treatment prior to cervical surgery experienced better outcomes with regard to length of hospital stay, complications, and patient-reported HRQL measures at 2-years post-operatively compared to patients who did not undergo conservative treatment.