The effectiveness of vitamin D supplementation in functional outcome and quality of life (QoL) of lumbar spinal stenosis (LSS) requiring surgery

Sangbong KO, M.D., Seungbum Chae, M.D., Wonkee Choi, M.D., Jaebum Kwon, M.D., and Je-Yong Choi, M.D., SEOHO LEE, M.D.

Department of Orthopaedic Surgery, College of Medicine, Daegu Catholic University, Daegu, Korea

INTRODUCTION

PURPOSE

- to study the prevalence of vitamin D deficiency in patients with LSS who require surgery
- to compare the differences between the case where vitamin D is supplemented for patients with LSS who require surgery and the case where vitamin D is not supplemented for patients with LSS who require surgery

METHODS

- A single-center randomized controlled prospective study
- Intramuscular injections of 100,000 IU of vitamin D3 (D3BASE, ABIOGEN Pharma SpA, Italy)
- Serum 25-OHD level measurement [6]
  - The day before fasting, between AM 8:00 and AM 8:30
  - Deficient: ≤ 20ng/ml (50nmol/L)
- Functional outcome : 12, 24 months follow up
  - Oswestry Disability Index (ODI) : validated Korean version
  - The Rolland-Morris Disability Questionnaire (RMDQ)
- Quality of life : 12, 24 months follow up
  - SF36 questionnaire
- Statistical analysis : Using a Mann Whitney test

RESULTS

Vitamin D Deficient Patients (n=78)

- ODI after 12 months after surgery was improved in Group A
- ODI after 24 months after surgery was improved in Group A
- RMDQ was not different between preoperative and all postoperative periods

Group A
- Vitamin D supplement (n=27)

Group B
- Vitamin D un-supplement (n=27)

CONCLUSIONS

- Vitamin D deficiency in LSS patients : 76.5% (78/102 patients)
- Active treatment vitamin D supplementation
  -- Enhance functional outcome of spine
  -- Improve quality of life

Reference