

The Influence of Pharmacological Osteoporosis Treatment on Refractures Following Kyphoplasty

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Abstract

The aim of this study was to examine the relationship between pharmacological osteoporosis treatment on the refracture rate in patients who have had a thoracic or lumbar level kyphoplasty. A kyphoplasty was a non-invasive vertebral augmentation surgery used to treat compression fractures. It was a known fact that a kyphoplasty could cause future compression fractures at the levels above and below the initial procedure. In addition, spinal compression fractures were considered to be osteoporotic fractures. A single center observational cohort study with 192 patients who had kyphoplasty from 2015 until 2019 was conducted. The cohort was divided into two groups with a 1:1 ratio. The two groups were labeled Group I (pharmacological osteoporosis treatment) and Group II (no pharmacological osteoporosis treatment). Refracture was defined as having at least one future osteoporotic compression fracture requiring a kyphoplasty after the initial. Patients that had a subsequent fracture following the initial kyphoplasty procedure were placed into the "Post Kyphoplasty Refracture" (PKR) category, whereas those that didn't have a fracture subsequent to the initial kyphoplasty were categorized as "No Post Kyphoplasty Refracture" (NPKR). 44 patients self-reported the intent to start osteoporosis treatment with their Primary Care Provider and were placed in an Intended to Treat Group (ITT). A Chi Square Independence Test was used to analyze the data. There was a significant reduction in the refracture rate ($\chi^2=4.4045$, $p=0.036$). In Group I, the ITT group were the only patients who were lost to follow up. 0 were lost to follow up in Group II. The Chi Square Independence Test suggested a strong dependent relationship between pharmacological osteoporosis treatment and the refracture rate following kyphoplasty and determined significance in data. This study gave physicians a treatment method to reduce the chance of patients developing future compression fractures. Thus, leading to far less future kyphoplasty procedures.

Biography

I am an undergraduate student at New College of Florida. I am currently in my second year and am planning on applying to medical school after I graduate. I plan on specializing in Orthopedic Surgery. I played professional tennis for approximately 5 years and want to work with and on athletes in the future. My goal is to enhance and create new ways to help extend athlete's careers.