Service Priorities and Programmes

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Ultrasound-guided phenol nerve block in the treatment of hip adductor spasticity in infirmary patients: a randomized, double blind, placebo controlled study

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Introduction

Lower limb spasticity, in particular hip adductor spasticity, is a major cause of pain, joint deformity, and co-morbidity in infirmary patients. The resultant hip contractures render patients unable to sit, making them bedbound. Spasticity also produces scissoring of the hips, which prevents maintenance of perineal hygiene leading to skin breakdown and infection. Moreover, the risk of osteoporotic bone fractures is markedly increased during turning in bed and transferring. Despite its significant impact on patient wellbeing, there is a paucity of research regarding successful treatment of hip adductor spasticity in infirmary patients

Objectives

To evaluate the effectiveness of USG-guided phenol nerve block in the treatment of severe hip adductor spasticity in infirmary patients

Methodology

Design: Double-blind placebo-controlled trial with a 9-month follow-up period. Setting: The infirmary units of 7 public hospitals, and a C&A home Participants: Twenty-six long-term care patients with severe chronic bilateral hip adductor spasticity which affects perineal hygiene and nursing care. Interventions: Patients are randomized to two groups to receive USG guided obturator nerve block using either 5% phenol in aqueous solution or saline. All patients also receive concurrent standardized physical therapy and occupational therapy programs. Main Outcome measures: The primary outcome measure is provided by the Modified Ashworth Scale which reflects the severity of hip adductor spasticity. Secondary outcomes include goal attainment scale,

hygiene score, maximal distance between the knees during passive hip abduction; passive range of movement for hip adduction, hip extension, and knee extension. Pain is assessed using the Pain Assessment in Advanced Dementia (PAINAD) Scale and the incidence of osteoporotic fractures, pressure sores and skin infections in the affected limbs are determined.

Result

Results: 26 patients (7 males; mean age = 72, SD =15) were recruited. There were 16 patients in treatment group versus 10 patients in control group. There was no statistically significant difference in the baseline demographic data between the treatment group and control group. At week 6 post-injection, there was a significant decrease in bilateral hip adductor spasticity in the treatment group compared with the placebo group. 12/16 (75%) patients in the treatment group versus 1/10 (10%) patients in the control group had at least one point improvement in Modified Ashworth Scale in both lower hip adductors (P=0.004). The reduction of hip adductor spasticity in the treatment group was accompanied by the simultaneous improvement of perineal hygiene score, maximal distance between the knees during passive hip abduction and passive range of movement for hip adduction. Moreover, although both treatment group and control group had significant improvement of their GAS at 6 weeks post injection, patients in treatment group had a much greater magnitude of improvement in their GAS when compared with the control group (P= 0.006) There was no statistically significant difference between treatment group and control group in all cumulative incidents including deaths and pneumonia. Conclusion: USG-guided phenol nerve block can significantly decrease hip adductor spasticity in the frail infirmary patients, thus decreasing the difficulty in basic lower limb care and improving the range of joint movement. This does not only reduce the burden of the care-givers, but may also reduce the pain and suffering of the patients.