



Service Priorities and Programmes
Electronic Presentations

Convention ID: 281

Submitting author: Ms Lai Ching WONG

Post title: Physiotherapist II, Tuen Mun Hospital, NTWC

Prognostic Factors and Progress of Functional Recovery in Elderly with Hip Fracture after Operation - A Retrospective Cohort Study

Wong LCB(1), Ho OLL(1), Tse CWE(1), Ma FCB(1), Wong YBB(1), Yuen KYJ(1), Leung PWK(1), Poon YHP(1), Tsui HF(2), Lam CY(2)

(1)Physiotherapy Department, Tuen Mun Hospital (2)Department of Orthopaedics and Traumatology, Tuen Mun Hospital

Keywords:

prognostic factors
hip fracture
physiotherapy
rehabilitation
functional recovery
elderly

Introduction

Hip fracture after falls in the elderly is common in Hong Kong. It is a significant threat to an individual's functional independence and ability to live in the community. Comprehensive in-patient physiotherapy rehabilitation program was implemented to improve patient's mobility and facilitate discharge process.

Objectives

To investigate the physical and rehabilitation profile and identify possible prognostic factors influencing the functional recovery and discharge destination of geriatric hip fracture patients.

Methodology

Elderly with hip surgeries under Integrated Patient Care Pathway (IPCP) Hip Fracture Program and transferred from acute to rehabilitation orthopedics units were recruited. They participated in individualized rehabilitation program. Socio-demographic data and pre-morbid status were recorded. Primary outcomes included: (1) Elderly Mobility Scale (EMS); (2) Modified Functional Ambulation Category (MFAC); (3) Time-Up and Go Test (TUGT); (4) Active range of motion (AROM) of hip flexion; which were collected initially after operation, at the time when transferred to rehabilitation units and before discharge. Discharge destination was used as secondary outcome. Data were analyzed using SPSS (version 21).

Result

From May 2011 to April 2012, a convenience sample of 90 patients (27 male and 63 female; mean age = 80.7 ± 8.6 years old) were recruited. The total mean Length of Stay (LOS) was 35.7 ± 15.5 days and the mean LOS in rehabilitation setting was 23.72 ± 13.7 days. 67 subjects (74.7%) lived at home and 76 subjects (84%) could

walk independently before admission. Most subjects (62.2%) attended intensive gym training during hospitalization. After a course of in-patient rehabilitation, improvements were demonstrated in various functional and physical outcomes: (1) Score of EMS improved from 2.9 to 9.3; (2) Mode of MFAC changes from Category II (n=34) to Category IV (n=25); (3) all subjects failed in TUGT initially and 30% (n=25) could complete the test in final assessment; (4) AROM of hip flexion increased from 56.5 to 84.3 degrees. Besides, 53 subjects (63.9%) could be discharged home which was significantly different from pre-morbid placement ($p=0.022$). Using linear regression, pre-morbid MFAC (adjusted $R^2=0.30$, $p<0.001$), age (adjusted $R^2=0.14$, $p<0.001$), initial MFAC and EMS after operation (adjusted $R^2=0.30$ and 0.14 respectively, both $p<0.001$) showed significant predictive power in the final EMS score. Furthermore, pre-morbid MFAC (Odd Ratio=5.25, $p=0.005$) and initial MFAC after operation (Odd Ratio=12.8, $p=0.034$) demonstrated significant predictive power in determining discharge placement. Conclusion: Comprehensive physiotherapy rehabilitation is effective in improving functional independency in elderly after hip fractures. The pre-morbid MFAC and initial MFAC after operation were identified as prognostic factors related to rehabilitation outcomes and discharge destination. Use of these prognostic factors for the discharge planning will help to plan and streamline rehabilitation care and, thus optimizing the utilization of health-care resources.