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Project title

Effectiveness of Fast-track Arthroplasty Programme to Enhance Recovery through Multi-disciplinary Collaboration

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Introduction

With aging population in Hong Kong, there will be an increasing healthcare demand for the management of osteoarthritis of knee. Total knee arthroplasty (TKA) is the treatment of choice for patients unresponsive to conservative management. Because of the limited in healthcare budget, measures in improving the clinical efficiency are very important. Fast-track Arthroplasty (FTA), which was widely adopted in Europe, was showed to result in quicker functional recovery, decreased length of convalescence, and reduced hospital costs after TKA. Since May 2013, the traditional rehabilitation plan after TKA in our institution was modified after reviewing the updated literature, and learning from invited overseas expert and HA supported overseas training. At present, FTA programme included comprehensive nurse-led multi-disciplinary pre-operative education, preoperative assessment by physiotherapists and occupational therapists on physical aspects and home-readiness respectively, modern surgical and anaesthetic techniques to limit the stress response from surgery and to enhance recovery, effective post-operative pain control measures and early rehabilitation training after surgery.

Objectives

This study aimed to review the clinical outcome of the FTA programme.

Methodology

This was a case-control study. The control group were the patients with TKA done according to traditional protocol in our institution in 2012, whereas the case group were the patients with TKA done according to updated FTA programme in our institution in 2015. Patient’s demographics, and the average length of stay (LOS), 90-day readmission rate, and preoperative and postoperative knee functions at 6 week (Knee Society Functional Score) was compared between 2012 and 2015. The data were collected from CDARS, local joint registry database. The result was taken as significant if $p < 0.05$.

Result

There were 266 patients and 318 patients had primary TKA done in our institution in 2012 and 2015 respectively. Both groups of patients were comparable in sex, age and preoperative knee function ($p > 0.05$). The average LOS has statistically significant decrease after FTA programme (19.2 day in 2012 Vs 12.3 day in 2015, $p < 0.05$). The 90-day readmission rate (11.2% in 2012 Vs 10.8% in 2015, $p = 0.75$), and the postoperative knee function at 6 week showed no significant difference ($p > 0.05$). Conclusions Through multi-disciplinary collaboration, FTA programme was effective in reducing LOS after TKA in our

institution. There was no associated increase in readmission rate, or inferior rehabilitation outcome. To improve the clinical efficiency in managing age-related degenerative conditions in Hong Kong, fast-track principles needs to be considered in current surgical practice.