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Optimizing the implementation of fast-track nephrectomy pathways.

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Introduction

Approximately 840 people are referred to nephrectomy in Denmark every year, mostly because of kidney cancer (www.sundhedstyrelsen.dk). It is estimated 2/3 can take part in a fast-track pathway.

A fast-track pathway is a multimodal multidisciplinary effort to optimize all important elements, i.e. the patient-pathways, such as early mobilisation, nutritional support and appropriate analgesic treatment. The theory behind the fast-track multimodal multidisciplinary effort is to reduce postoperative morbidity and optimize convalescence (Kehlet/ Willmot, 2008). The multimodal team consists of the patient, the anaesthesiologist, the surgeon, the nutrition expert, the nurse and the physiotherapist. Studies have shown that the multimodal approach leads to an increased survival rate, reduces the average length of hospital stay and costs (Kehlet/Willmot, 2008). These results are primarily documented in connection with high risk colorectal surgery.

The positive results of the fast-track multimodal effort have been known for years, and are well documented, however implementation is still lacking across Europe (Kehlet,2011)

The primary focus of urology nursing in highly specialised surgical units are preoperative information, compliance, patient education, pain treatment, adjusted nutritional status and enhanced mobilisation (www.perioperativenhed.dk).

Studies concerning strategies for implementation into clinical practice are lacking (Grimshaw, Cochrane review) and urology nursing care are underreported, especially considering adherence to best clinical practise. However, Web-based, evidence-based care principles and updated literature related to nursing in combination with procedure specific workshops, local audits and site-visits have facilitated progress for several procedures in Denmark (Grol/Grimshaw, 2003). A single study in urology care has shown that fast-track pathways combined with laparoscopic nephrectomy procedures reduced length of stay, and patients experienced less post-operative nausea and pain (Jacobsen, M. Lund, L. Jønler, M. Dich, J.O. 2007).

In the Department of Urology at Aarhus University Hospital, a study has been conducted to measure the extend of implementing fast-track programmes for patients undergoing nephrectomy (open, laparoscopic and cryoablation) procedures respectively. The study has shown a trend towards reduced hospitalization. In addition the study documented, that the

nursing staff does not follow the fast-track concept consequently. (Adherence to fast-track programmes within urology nursing care, to be submitted).

This project will investigate whether a standardised educational intervention program can reinforce the level of implementation in clinical pathways which remain problematic.

Moreover, the project will identify a possible improvement of adherence among the nursing staff, after fulfilling a standardised education programme and which indicators may seem as a barrier. (McNamara, S, Giguere V, St-Louis L, Boilcau J, 2009)

Objectives

To investigate:

Whether existent barriers to fast-track programmes can be overcome
Core elements, which can facilitate the implementation journey and increase adherence to care-plans.

Whether a standardised educational intervention programme will improve adherence among the nursing staff to the national recommendations to nephrectomy pathways, and is it necessary to repeat the education programme to keep up the adherence.

Hypothesis

Standardised and repeated educational programme in nephrectomy pathways will increase Quality of care and adherence among nursing staff.

Literature

A comprehensive literature study has been conducted and the findings have been integrated in the introduction.

The criteria for inclusion in the study were relevance to nursing in fast track programmes in general or urological nursing in specific, implementation of clinical guidelines in nursing specific, staff development and teaching methods. The literature search was performed in three databases; Pub med, Cinahl, Scopus.

The following mesh terms were used:

Fast track, nursing, adherence, nephrectomy, combined with AND.

Practise change, education, professional development, staff development, teaching methods, combined with AND.

Relevance to urology nursing.

There is a fast flow of new research and guidelines to be implemented in the department and nursing field in general. Often tradition and lack of knowledge are (www.perioperative.dk enhed) mentioned as some of the barriers against implementation of new procedures, or slowing down the implementation from a practical point of view. It could be of clinical interest to be able to document adherence of procedure related methods to secure and optimize the implementation of clinical guide-lines in fast-track pathways for the patient undergoing nephrectomy.

Methodology

This study is a follow-up on an earlier quasi-experimental study, which measured differences in length of stay for patients undergoing nephrectomy procedures, and the adherence to fast-track pathways among nursing staff (EAUN, research competition 2010).

The present study is considered as a quality assurance project. The study design is a quasi-experimental design. Selected indicators reflecting standard care in nephrectomy pathways will be compared before and after an educational intervention.

Power estimation and calculation of sample size to show any expected difference between the groups are not possible since no studies, to our knowledge, have reported any supportive information to this study. Earlier results document that approximately (75 %= 2-3 indicators are fulfilled). The study group estimate focused interventions improve will the level of implementation to a minimum of (80-85 %).

Baseline-data encompass patients referred to nephrectomy in the time from 1. June 2009 until 31. December 2010 is considered as the control group (80 patients).

The "intervention group" are patients prospectively referred to nephrectomy in the time from 1. February 2013 until 80 patients has been receiving a nephrectomy.

The study is divided into two parts;

Measurement of to which degree the patients are fulfilling the standard for peri-and post-operative care in nephrectomy pathways.

Staff educational-intervention for peri-and post-operative standard care in nephrectomy pathways.

Adherence

Adherence is defined as to which degree the standard (fast-track programme) is fulfilled expressed as proportions. (Perioperativ enhed.dk);

Every patient will be monitored due to the standard programme and the differences in staff-adherence will be measured as a difference in before and after educational-intervention perspective with follow up.

Educational Intervention to optimise adherence

Before data sampling, the nursing staff (approximately 50 persons) will receive the intervention (educational –program) concerning the care principles, goals and importance of the fast-track programme for patients undergoing nephrectomy (see below).

There will be two peers, the intervention, a focused educational program assisted by daily education and motivation of the staff (Keller R/Frank-Bader M, Bowar Ferres S) (Kehlet/Wilmoth 2008).

There is already existing guidelines (PerioperativEnhed, 2012) for the fast-track pathway, and this material is the same in both groups.

The formal education will consist of:

The upstanding is set up in a non-prioritised order.

- Extended preoperative information.
- Optimizing bowel function.
- Mobilisation plan.
- Nutrition plan and preventing nausea.

- Pain relief.
- Goals for length of stay.

Every staff member will be educated in pre- and post-operative educational program which reflect national standard for FT pathways. The educational intervention will consist of minimum 2 focused lectures of 30 minutes for every staff member, along with the daily clinical practice and relevant literature. Participation in the educational lectures will be documented in a personally web-based log-book. The goal is that a minimum of 80 % of the staff is continuously educated. A dedicated corps of 4 high specialised nurses from the nephrectomy team will provide the educational program and ad hoc education for new staff.

Extended postoperative information and measurements includes:

- First event of passing gas.
- Returned bowel-function before being discharged (flatus).
- Full mobilization (for the laparoscopic nephrectomies the goal is 4 hours of mobilisation on the operation day, and 8 hours the following days. For the open nephrectomies the goal is 2 hours of mobilisation on the operation day, 6 hours the next day, and 8 hours the following days.)
- Nutritional goals due to standard (Drink 1-1.5 litres on the operation day, and 2 litres the following days, eat normal sufficient meals from the operation day).
- Peri-and post surgical pain control due to standard (VAS score <3); For the laparoscopic operations the standard pain treatment consist of paracetamol 1 gram x 4 and ibumetin 400 mg x 3 daily. For the open nephrectomise: epidural treatment, bupivacain/morphine (2 days) and paracetamol 1 gram x 4 daily. Oxynorm 5 mg is given pn.
- Nausea control due to standard (Fortecontin is given during the operation, and ondansetron is given pn. Postoperative).

- Discharge criteria; Mobilised to normal standard, able to eat and drink sufficient, pain relief on tablet treatment, s- creatinin < 200 mmol, flatus. For the laparoscopic nephrectomy the goal is to be discharged on the 2. Postoperative day at the latest and for the open nephrectomy on the 4. Postoperative day at the latest.

Follow-up

After conducting the educational intervention-program staff adherence to standard care in peri-and post-operative nephrectomy pathways will be measured after 6 and 12 months and compared to baseline. The level of fulfilling indicators will be continuously measured.

Exclusion

Exclusion criteria are patients < 16 years or advanced malignity, where the operation is performed as palliative treatment.

Endpoint

Endpoint – The difference in the degree of adherence among nursing staff before and after educational intervention concerning national standard care program in patients undergoing nephrectomy

Patient- outcome is reported by relevant indicators related to the national standardised program and comparable with baseline data.

Statistics

All indicators will be reported as proportions with a 95% confidence interval (CI).

Differences in documented indicators before and after educational intervention will be measured after 6 and 12months respectively and tested with Student T-test or Chi² when appropriate. Any possible differences in adherences among nursing staff will be measured according to the same time schedule for follow up. Statistical significance is defined as $p < 0.05$.

Feasibility

Time table

August 2012 – 1 December 2012: Finalize the research protocol for the EAUN Annual Meeting in Milan 2013. Apply for permission to sample data collection (Danish data protection agency).

December 2012 -June 2013; Create database in Epidata.

Installation of web-based logbook for staff education

Education of peer members in the team.

Education of the staff-members.

Afterwards collecting patient records, sample data and entering in Epidata.

June-August 2013; ongoing data sampling and initiate analysis of data.

September-December 2013: Analysis, interpretation and presentation of results in peer reviewed journals and at relevant congresses.

Budget

Establishing of clinical data base : 3000 kr

Data management : 17000 kr

Education of clinical peers, sampling, analysing and data interpretation : 25.000 kr

Conclusions/Relevance

The clinical perspective of this project is to improve implementation strategies in surgical care and support evidence in clinical urological practice with special attention to areas which may be lacking.

Documentation of the implementation status can possible be beneficial for patient-outcome.

The study intense to add knowledge for practical use for other departments in the middle of implementation process.

References

Literature list attached.

Possible conflicts of interest

To our knowledge there are not any possible conflicts of interest.

Ethical considerations

Data will be anonymized. Data collection methods will be approved by the national Data Protection Agency. The study is not considered to do or provide any harm to the patient. However the local regional ethical and scientific committee will be informed.

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