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Transplant, Urology & Nephrology – Looking In To The Future

Book Of Abstracts

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Poster No: 1

Advancing Knowledge in haemodialysis through the development of an E learning course

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Ruth Mc Kenna, RGN, Bsc Nursing, PGDip Renal Nursing, TUN Education Coordinator.

Introduction / Background

A gap in the education surrounding the basics of Haemodialysis nursing was identified within the TUN directorate.

Following ongoing discussion amongst peers, colleagues and Post Graduate diploma students, an E learning course was identified as the most appropriate method of incorporating this knowledge to our nurse's education package. This is due to the ease and flexibility of accessing E Learning modules at any time and being able to navigate through modules in an appropriate amount of time.

E-Learning as described by Uprichard (2020) involves the use of digital technology such as 'virtual learning environment', online education platforms, or mobile applications in providing training to learners.

Online learning has also been shown to save time, money and makes continuous professional development more accessible and inclusive (Autumn, 2022).

Aims and Objectives

To provide knowledge on the basics of haemodialysis to nurses new to the haemodialysis setting or nurses external to the Renal specialty who may benefit from further knowledge on this topic (such as nurses in the ICU setting or caring for a Renal patient in another specialist area).

Methodology

The course design integrates interactive multimedia elements to facilitate an engaging and effective learning experience. The ADDIE Model (Analyse, Design, Develop, Implement and Evaluate) serves as a framework for conceptualising the haemodialysis e-learning course.

The content is based on up to date evidence based knowledge to ensure the accuracy and relevance of course content.

The participant's knowledge is then tested by multiple choice questions.

Contact details of creators are provided if users have further concerns.

Results and discussion

Initial feedback is positive, however participant engagement and knowledge retention will be observed over the coming months to assess the impact of this course.

Conclusion

The creation of this Haemodialysis E Learning course addresses the need for accessible and reliable education on this modality of treatment.

Future recommendations

It is anticipated to develop more modules on this specialty of treatment, modules on Central Venous Catheter care, AVF care and advanced Haemodialysis nursing are in the planning stages.

Poster No: 2

The implementation of an ANP led stent removal clinic for patients post kidney transplant and its effect on UTI rates post stent removal.

Authors: Hannah Graham, RANP, Liana Keegan cANP, Angela Niland, RANP, Karen Kelly, cANP, Olive McEnroe cANP, TUN Directorate.

Background

The Covid-19 pandemic brought new ways of working throughout the entire health service. Not least within the National Kidney Transplant service. Efforts to protect this vulnerable patient cohort from contracting Covid-19, were increased. Prior to the pandemic, patients who had a JJ stent inserted at the time of their transplant would have to travel to St Josephs in Raheny to have it removed 4-6 weeks post operatively. Patients were placed on a general urology flexible cystoscopy list, which did not include the checking of urine cultures pre procedures or any prophylactic measures to prevent post procedure UTI in this vulnerable patient group. This practice saw an increase in the amount of post-transplant patients requiring hospitalization for treatment of urinary tract injection post stent removal. It was decided to reduce post transplant hospital visits and patient contact a dedicated post-transplant stent removal clinic would be set up on Renal Day Ward alongside the transplant nephrology clinic. It was also hoped that having a dedicated stent removal service for transplant patients would reduce infection rates post stent removal in addition to reducing other post procedure complications. Antibiotic prophylaxis pre stent removal was introduced for patients who did not have a urine culture taken 7 days prior to their stent removal or patients who had a positive urine culture 7 days prior to stent removal.

Aims/ Objectives

Building off the recommendation from the clinical audit on the prevalence of urinary tract infections post JJ stent removal in transplant patients, the aim of this project was to assess the effectiveness of the newly created ANP led post-transplant stent removal clinic on Renal Day Ward, in reducing post stent removal complications such as urinary tract infection.

Methodology

Retrospective chart review to ascertain the prevalence of complications post JJ stent removal such as UTI.

Results and Discussion

Approx 84 stent removals were carried out in the new post-transplant stent removal clinic in Renal day ward from April to December 2022. Of the 84 patients 4 required antibiotic post procedure despite pre procedure prophylaxis. However none of these patients required admission to hospital. This is in comparison to 5/93 patients noted during the previous audit to have developed a UTI post stent removal, 4 of which required admission to hospital and intravenous antibiotics. The median hospital stay for these patients was 5 days.

Conclusions

Creating a dedicated post-transplant stent removal clinic on Renal Day Ward has had a massive impact on the amount and severity of UTIs suffered by patients post stent removal. Prior to this 80% of patients who developed a UTI post stent removal required hospitalisation for the administration of IV antibiotics. No patient who has had a stent removal on Renal Day Ward has required hospitalisation due to UTI post procedure.

Future recommendations

To continue to collaborate with our Nephrology and Microbiology colleagues regarding an antibiotic prophylaxis regime to reduce the risk of urinary tract infection in this immunosuppressed patient cohort while not increasing risk of antibiotic resistance.

Poster No: 3

Risk of Infection in Haemodialysis Patients Using the Buttonhole Cannulation Technique.

Authors: Jini Jacob, Renal ANP, Maria Bergstrom CNS Renal in-patient coordinator, Dr Eoin Bergin Renal consultant MRH Tullamore.

A retrospective study was conducted in a single centred haemodialysis unit over a two year period between 2017 and 2018. All adult patients with AVF vascular access using buttonhole cannulation technique was included in the study.

A total of 116 patients were included and 13,642 number of treatments provided over the study period. In this patient cohort, the site of AVF vascular access is divided as 61.2% Brachiocephalic,36.2% Radiocephalic, and 2.58% brachiocephalic transpositioned. The average time from the date of AVF creation to the first cannulation was 5.41 months, which ranged from 6 weeks to 41months.The long leading time to cannulation of AVF may be attributed to early vascular access creation or the slow progression of CKD.

The key purpose of this study was to examine the reported incidents of localised and bacterial infection. Localised infection is considered as presence of any redness, oozing, swelling or pus at needle site. Out of 116 patients 110 patient had no sign of localised infection, 6 patient had redness at their AVF needle site. There was no record of swab taken on any of these patients, one patient with redness at needle site was treated with IV antibiotics, blood culture was negative and treatment changed to oral antibiotics. In 2018 the unit has implemented Povidone Iodine 10% as a second choice of cleaning agent for patients who are allergic to Chloroprep as recommended by BRS guideline.

Table (1)

Localised infection of AVF site

Total number of patients	No sign of localised infection(n)	Patients Redness (n)	Swabs (n)
116	110	6	0

Table (2)

Intervention in localised AVF infection

Redness	
1	Antibiotics (Iv then to Oral)
1	Needle site changed
3	Cleaning solution changed
1	No intervention needed

Bacteraemia

In our 116 patient cohort, 5 patients with Buttonhole cannulation technique developed Bacteraemia during this time period. Root Cause analysis (RCA) was conducted in 4 patients. The RCA team concluded that the source of 3 Bacteraemia was from buttonhole. The fourth patient had both CVC and AVF in situ, CVC was blocked, unable to carry out the regular flushing. CVC was left in for four months due to lack of vascular team in the unit. RCA team concluded the source of, bacteraemia for this patient was from CVC. The fifth patient, Blood culture was positive for

Streptococcus, No RCA was conducted. Source of Bacteraemia was unclear. In conclusion, Out of 116 patients or 13642 treatments unit had only 3 confirmed bacteraemia incidents from buttonhole Cannulation during a two year period.

A Swedish study conducted by Staff, *et al*. (2021), using Renal Registry data from 2014 to 2019 of 1328 AVF or 990,405 AVF days showed a lower risk of complications with buttonhole cannulation technique such as infection, stenosis and infiltration. They reported buttonhole blunt infection rate of 0.04 /1000 AVF days.

A multicentre study conducted in Denmark by Glerup, *et al.* (2019) compared the bacteraemia rate between Buttonhole and rope ladder technique showed bacteraemia rate in Button hole cannulation technique as 0.268/1000AVF days.

Bacteraemia Events, Table (3)

Study conducted In	AVF days	Rate of infection
Swedish	990,405	0.04 /1000 AVF/ days
Denmark	160,556	0.268/1000AVF/ days
Ireland(Tullamore)	13,642	0.21/1000AVF/days

Other Findings

Auditors also looked into other cannulation related complications, difficulty in cannulation, use of sharp needle and necessity of surgical interventions. Out of 13,642 treatments, 416 occasions recorded as difficulty in cannulation. Cannulation difficulty is dependent on staff experience, skill level and vintage and condition of AVF. In 22 patients, difficulty in cannulation was documented on more than 10 occasions. New site was developed arterial 11/ venous 24 and 6 patients both arterial and venous sites.

Buttonhole infiltration was reported in 6 patients. Angioplasty was required in 8 AVF patients, 3 were successful and 5 were unsuccessful

Conclusion

This study showed 3 confirmed bacteraemia incidents from buttonhole cannulation during a two year period. Our findings shows the importance of development and adherence to hygiene protocols, including good clinical practice supported by evidence based guidelines will reduce the potential risk of developing bacteraemia or localised infection.

Poster No: 4

Ultrasound guided arteriovenous cannulation --A quality initiative in renal dialysis unit at MRH Tullamore

Authors: Jini Jacob, Renal ANP, Karmaleena Thandavarayan, Clinical Facilitator MRH Tullamore.

Introduction

Vascular access is essential for Haemodialysis (HD) treatment and can be attained via arteriovenous fistulae (AVF), arteriovenous grafts (AVG), or central venous access. Cannulation of AVF, AVG has traditionally used the "Look, Listen and Feel" approach, known as "blind" cannulation.

Ultrasound guided cannulation enables clear visualization of the vessel and has the potential to decrease cannulation complications such as infiltrations, hematoma, stenosis, thus increasing the cannulation success rate and life expectancy of AVF.
In order to achieve an optimal success rate and to minimize complications associated with cannulation, the renal unit at MRHT has introduced real time ultra sound guided cannulation technique in January 2023.

Description of the initiative

When the ultrasound guided needling technique was introduced, the Renal ANP, CNM2 and CF received training with a simulation model from the nephrologist. The needle can be inserted either by holding the probe in the longitudinal position or the transverse position. With the Longitudinal technique the probe is placed, in alignment with the vessel axis which assists with the visualization of the complete length of the needle as it advances. The transverse technique, enables the probe to be positioned transversely on the vessel. This enables the nurse, to view the entire circumference of the vein. The needle illuminates bright which facilitates cannulation.

The needling with this ultrasound technique under ultrasound was first completed on a challenging complex Hero graft, located in the right subclavian vein by two nurses using the longitudinal technique. With this technique one nurse holds the probe wearing sterile gloves whilst the other nurse cannulates. When the nurse achieves full competency she/he can hold the probe and cannulate simultaneously. This technique is a great advantage for highly precise cannulation.

Outcome

Ultrasound guided needling technique is in early development in the unit. During this period the unit has successfully demonstrated the benefits of ultrasound guided needling for complex fistula and graft. The unit is proactively training staff to cannulate under ultrasound guidance.

Recommendation

Ultrasound guided needling is an effective method for cannulation of AVFs thereby increasing the life expectancy of AVF. A specialized, long term competency based training programme is required for staff to achieve full competences in ultrasound guided cannulation.

Poster No: 5

Clinical Nurse Specialist in Penile, Bladder and Renal Cancer.

"A New Service -Penile Cancer Awareness."

Author: Alison Doran, CNS Penile, Bladder & Renal cancer.

Introduction/Background

Penile cancer is a rare type of cancer. It occurs on the skin of the penis or within the penis. It most commonly affects men over the age of 50 but can affect younger men. Approximately 50 men are diagnosed with penile cancer in Ireland every year.

Most penile cancers are squamous cell cancers. Squamous cells are found in the skin and cover the surface of many parts of the body. The most common sites for this cancer are the head of the penis (glans) or the foreskin. Among the rarer types of cancer that can occur in the penis are melanoma or sarcoma.

Beaumont Hospital is now the National Centre in Ireland for Penile Cancer referrals. Beaumont hospital provides a specialist service in the Urology Department for patients diagnosed with penile cancer.

Aims/Objectives

To provide information and education to staff and patients on the causes, signs, symptoms, diagnostic tests, treatment options and supports available for penile cancer patients.

Methodology

The content of the poster is based upon the most up-to-date literature and knowledge, despite the literature being limited.

Contact details are provided of the Clinical Nurse Specialist (CNS) if there are any questions or new referrals to be addressed.

Results/ Discussion

Penile cancer is a rare urological cancer however the number of patients diagnosed is steadily increasing. The new role of the CNS will help provide information and education to staff and patients. It is important for staff to be aware of the treatment options and post-operative care of these patients. They need to be aware of some of the supports available to these patients as the diagnosis is not only physically taxing but can have detrimental effects on their emotional and mental health.

Conclusion

This poster should provide staff and patients with the basic information on the signs, symptoms, causes, treatment options, Multidisciplinary Team members and supports available for penile cancer patients.

Future Recommendations

The new service will continue to expand. Education sessions will be available for staff members at ward level to increase their awareness, knowledge and skills in caring for patients with penile cancer.

Poster No: 6

TURBT and Mitomycin C: the nurses' role in the treatment process

Authors: Patryk Bartosiak, CNM 1 Urology, Michael Solamo, CPSN Transplant & Urology.

Background Bladder cancer is the most common type of the cancer in the urinary tract; and is 3-4 times more prevalent in males than females. . Painless gross haematuria is one of the first symptoms reported by patients attending healthcare provider. Bladder cancer has a complex and numerous pathophysiology, however smoking tobacco and working in an environment where exposure to carcinogens inhaled from materials like paints or petroleum products play a significant role in formation of a new, abnormal growth. According to the Irish Cancer Society (2022), each year in Ireland approximately 520 people are diagnosed with bladder cancer.

Transurethral resection of bladder tumour (TURBT) is the gold standard treatment option as the initial therapeutic and diagnostic approach for suspected bladder cancer. TURBT is considered as the first-choice treatment for non-muscle invasive bladder cancer, however the recurrence rate remains high. Treatment costs relating to recurrence of bladder cancers are higher than any other urological cancers. This being a fact; chemotherapeutic anticancer treatment such as Mitomycin C given as an adjunct treatment post-operatively is strongly recommended to help reduce the rate of recurrence.

Mitomycin-C is an anticancer medicine used for the treatment of adult bladder cancer. Administration is restricted to intravesical route only; directly into the bladder post-surgery via urinary catheter. A single intravesical dose of Mitomycin C given within 24 hours post TURBT significantly reduces the probability of tumour re-occurrence.

Being a cytotoxic drug, Mitomycin administration comes with its disadvantages alongside the desired anti-cancer effect. It can cause damage to the healthy tissue and for that reason needs to be handled with extreme attention and focus.

Aim The purpose of this poster is not just to educate health care workers about TURBT and Mitomycin administration but also to provide information to patients who will undergo the procedure.

Ultimately the goal is for this poster to be posted in urology areas in the hospital and inspire self-directed learning amongst Urology nurses.

Discussion The poster includes brief and concise explanations about the overview of bladder cancer, definition and indication for TURBT and Mitomycin C administration, its operating procedure in Beaumont Hospital, future direction associated with the practice, and aftercare post administration.

ConclusionTURBT and Mitomycin intravesical administration are urological interventions that are becoming very common nowadays. It can be challenging and stressful, as it requires handling of cytotoxic equipment and fluids which can cause potential damage to the healthy tissues of patient and/or healthcare staff. However good education background, preparation, and awareness of the policy will make this process smooth and safe for both parties.

Poster No: 7

A multidisciplinary approach to improving the path to Renal Replacement Therapy For patients in a Low Clearance Clinic

Authors: Maria Greene; Virology & Infection Prevention Ordinator, Beaumont Hospital.
Caitriona McNamara, Louise Mcskeane; Ambulatory Care Nurse Team. Sara Mccormac, Andrea Scully, Brenda Groarke; Patient Care Coordinator Team. Binu Vasu Renal IT, Angie Melia Vascular Access Nurse,
Jane Ormond Home Therapies CNS. Fiona Auguste CNS Chronic Kidney disease.

Introduction/Background

Being adequately prepared for Renal Replacement Therapy (RRT) allows a patient, time to adjust to a chronic diagnosis, a new treatment path while being supported in choosing a modality that suits their lifestyle.

Connecting to psychosocial health early in the journey supports & promotes self-management of chronic illness.

Early referral for vaccination gives best chance to be immunized and protected against Hepatitis B prior to RRT.

Aims & Objectives

To improve referral rates of patients (with GFR 15 or below) to a Low Clearance Clinic (LCC) for multiple nursing services in CKD pathway.

To identify actions to improve the referral rates for Hep B Vaccination, Psychological support and home therapies options.

Streamline & improve the patients experience & journey towards Renal Replacement Therapy.

Methodology

The team was established in Feb 2023 and comprised of the following nursing roles. Renal virology /IPC coordinator, Ambulatory care nurses leading Low Clearance clinic, patient care coordinators, Renal IT CNM2, Home therapies CNS and vascular access CNS. A framework for effective change was used to develop a smart aims, map the current processes and identify areas for improvement using PDSA cycles. Using communication, education, technology and feedback to progress actions and evaluate.

Results and Discussion

Patients identified suitable to be included in Nurse Led Low Clearance clinic increased over this period from 55-92.

Development of e- referral recording system using E-Med Information system enhanced documentation, information sharing and oversight of the patient's status.

- ✓ Sustained improvement seen in psychological support offered to patients from 51% -95%.

- ✓ Marked increase in patients referred for hepatitis B vaccination n community 29%-56%.
- ✓ Documented immune prior to commencing RRT 12%- 35%.
- ✓ Reduction in patients commencing dialysis with no virology blood sampling 41%-12%.
- ✓ Awareness and improvement of referrals to home therapies modalities.

Conclusions

Referral rates for vaccination, psychological support and promotion of RRT modality choices can be improved by regular communication, monitoring of rates and multidisciplinary feedback.

Embracing change and moving away from “silo systems” of working, allows for greater information sharing and enhanced patient experience.

Future Recommendations

Sustain improvement in the current project.

Encourage new referrals to Nurse led LCC by MDT to avail of the multi role nursing service.

A patent experience survey on the benefits of being adequately prepared for dialysis will be conducted in the LCC in Q1 2024.

Poster No: 8

An educational resource for Urology nurses on percutaneous nephrostomy (PCN) care

Authors: Yemema Kurian, RGN, BSc Nursing, PGDip in Renal Nursing. Visible Haematuria CNS, Transplant, Urology, Nephrology (TUN) Directorate.

BACKGROUND

Percutaneous nephrostomies (PCN) have been a crucial technique in emergency medicine since 1955 when Dr. Willard Goodwin first described it as a minimally invasive way to treat a hydronephrotic kidney. Since then, it has been used as a temporary or permanent measure to relieve urinary obstruction and decompression of the renal collecting system. However, there is a knowledge gap regarding PCN care among nurses. This gap inspired the creation of educational resources to enhance nurses' knowledge and patient care.

AIMS/OBJECTIVES

The aim of the resources is to educate nurses on the ward level about PCN care to improve their practice and patient education.

METHOD

The resources were developed by conducting literature searches on databases such as MEDLINE, PubMed, Cochrane Library Database, RCSI Library Online, and hand-searched literature. Relevant articles published in English from 2000 to 2023 were utilized.

RESULTS

Information leaflets were distributed among urology nurses. Initial feedback is positive. Education sessions in small groups along with educational booklets will be conducted. The poster on PCN care will be displayed at the ward level. A pre-and post-questionnaire will be completed with staff education to ensure its effectiveness.

CONCLUSION

Nurses play an essential role in the care of patients with Nephrostomy and educating them about the procedure can reduce the risk of infection and other complications. The availability of educational resources will improve nurses' knowledge and help them to provide safe, effective, and comprehensive care to patients with nephrostomy in the future.

Poster No: 9

Arterio-venous fistula Cannulation

Authors: Jisha Varghese, RGN, PG Dip in Renal Nursing.

Background

An arteriovenous fistula is a medical procedure employed by skilled vascular surgeons to establish a connection between an artery and a vein, aiming to maintain a robust blood supply and offer lasting benefits for patients with chronic kidney disease (CKD). AVFs are currently recommended as the gold standard vascular access method for haemodialysis, given their extended patency, heightened durability, and diminished infection risk upon maturation. Practicing effective needling techniques is essential to minimize damage to AVF access, reduce complications, and alleviate pain and anxiety associated with the needling process. Various cannulation methods, such as the rope ladder, area puncture, and buttonhole, involving either Blunt or sharp needles, are applicable for cannulating an AVF.

Aim

The aim of this poster was to describe the basis for choosing a cannulation technique for arteriovenous fistula and to describe the relationship between the different cannulation techniques and the occurrence of AVF complications.

Methods

Systematically searched databases such as Pubmed, Cochrane ,Research Gate, Google scholar between the years 2013 to 2022.

Results

The process of choosing a cannulation technique was found to be influenced by the dedication to good cannulation technique and healthy arteriovenous fistulas, whether the technique is perceived as being easy to use and is expected to prevent complications and based on the experienced-based knowledge of each dialysis unit.

Conclusion

The choice of cannulation technique and VA cannulation are the most important aspects in dialysis and the onus is on nurses to constantly update their knowledge and skills in this area. The importance of this choice is fundamental to properly use the vascular access and allow effective treatment, and correct and appropriate arteriovenous fistula (AVF) cannulation is the key to its preservation and the prevention of VA-related dysfunction.

Poster No: 10

USE OF SILVER ION-RELEASING DRESSING ON PERITONEAL DIALYSIS PATIENT: CASE STUDY

Authors: Miriam Balfe & Lorraine Gardiner

Objectives

Peritoneal dialysis (PD) is a widely used modality for renal replacement therapy for the management of end stage renal disease. Infections related to Tenckhoff catheter exit sites and tunnel infections are the main complications in PD, which also increase the risk of peritonitis, need for catheter removal/exchange or transition to haemodialysis. Each of these complications are significant events for patients and can seriously affect their overall wellbeing. In recent years, evidence is growing to support the use of silver ion-releasing dressings for patients on PD. Silver ion-releasing dressings are absorbent dressings with quick and lasting antibacterial properties. The purpose of this poster is to explore the efficacy of silver ion-releasing dressings in the management of patients with tenckhoff exit site infections.

Methods

Our unit conducted a case study of a patient aged 26 on automated peritoneal dialysis with exudate and positive swab results from their exit site. The EMODIAL Exit-pad AG was used at the exit site and dressing was left intact for 72 hours as advised by the manufacturer. They attended our clinic twice a week for dressing review, re-swabbing, monitoring and renewal. Progress pictures were taken with informed consent.

Results

There was a consistent improvement noted in exudate and redness over a three week period. The patient reported less itching and nil pain throughout the dressing application. The home therapy team were all in agreement that the silver ion-releasing dressing proved beneficial in treating the exit site infection in this case.

Conclusions

Silver ion-releasing dressings can promote healing, skin integrity, and reduce the incidence of exit site infections that can lead to further PD complications. The dressings are effective for patients on peritoneal dialysis where the exit site is not intact or there is a visible signs of infection, therefore should be considered for use among this patient cohort.