UK Renal Pharmacy Group

Welcome to the September Q&A!

Trusts represented today include: North Bristol, GSTT, Imperial, Limerick, Leicester, Northampton, St Georges, Glasgow, Oxford, Southampton, Barts Health,

world class expertise local care

Royal Free London NHS
NHS Foundation Trust

UCL
Centre for Kidney & Bladder Health

Use of Uromune vaccine to prevent recurrent UTIs in Kidney transplant recipients

Denise Cunningham, Emma-Louise Kent, Ingrid Bruno-Snelling, Ms Fiona McCaig, Prof Alan D Salama

UCL Centre for Kidney and Bladder Health, Royal Free Hospital, London UK

Background:

UTIs are one of the most common infections,

50%-60% of women will experience at least 1 UTI

- ~22% will experience recurrent UTIs
- RUTI defined as ≥2 in 6 months or ≥3 in 12 months,

Each episode is associated with

- 6.1 days of symptoms,
- 2.4 days of work absenteeism
- 0.4 days in bed,

Significant socioeconomic burden.

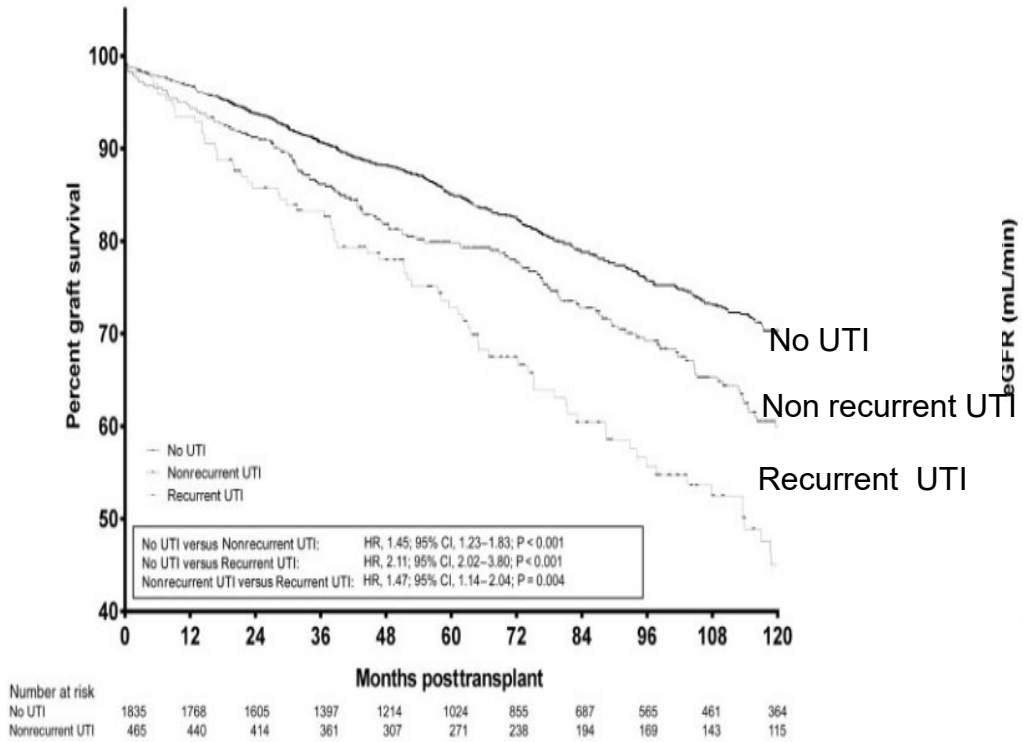
Post transplant UTI

N=2469 patients, Barnes-Jewish Hospital Washington

634 had UTI, 168 recurrent(27%), 465(73%) non recurrent

Major impact on graft survival; Compared to no-UTI, NR-UTI [adjusted HR (aHR) 1.27; 95% CI 1.02–1.57; P <0.030) and R-UTI (aHR 2.01; 95% CI 1.53–2.66; P < 0.001)

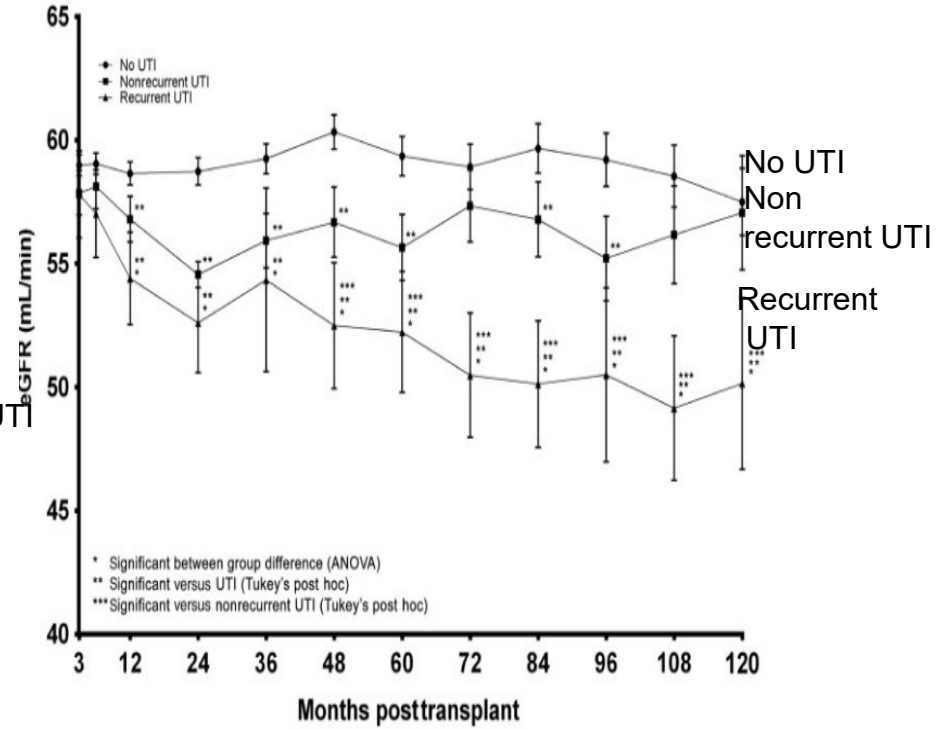
Significantly impacts GFR in those with functioning grafts



No UTI

Non recurrent UTI

Recurrent UTI



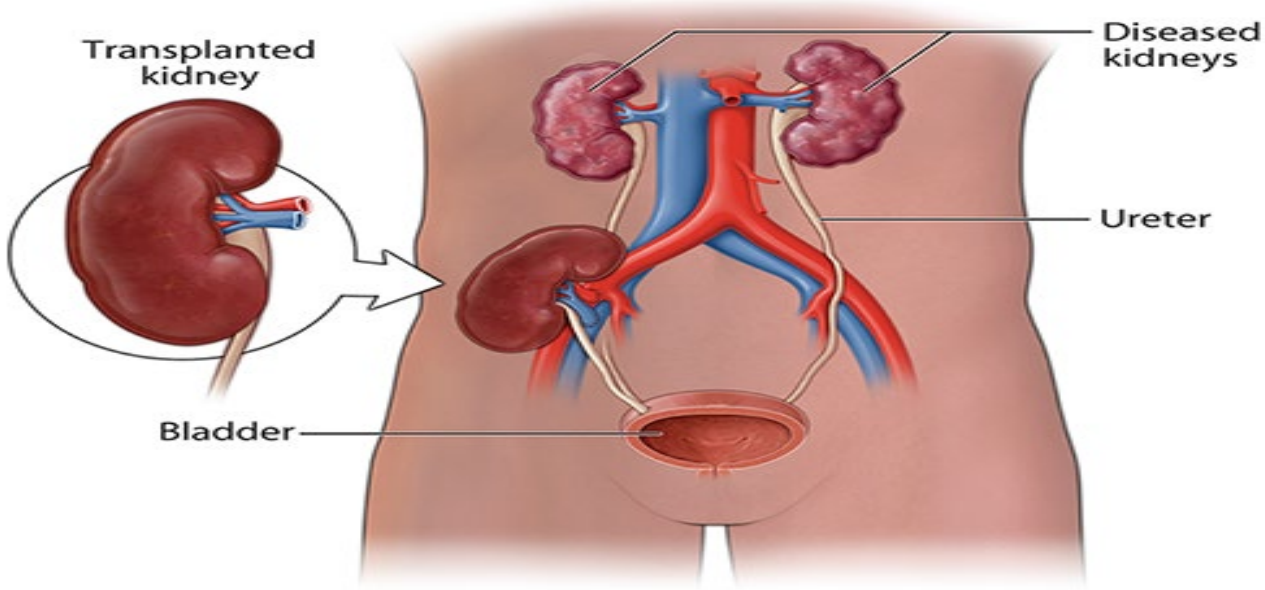
No UTI

Non recurrent UTI

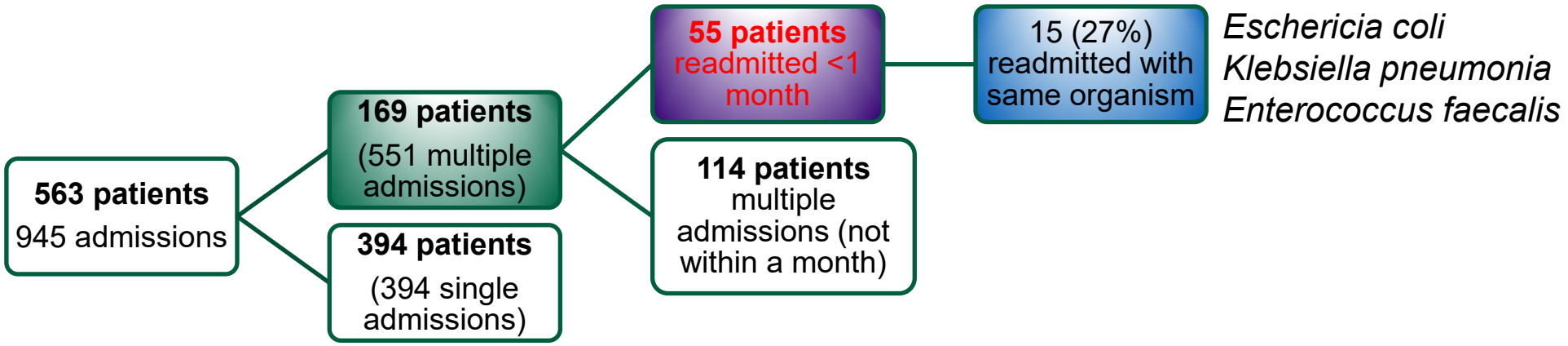
Recurrent UTI

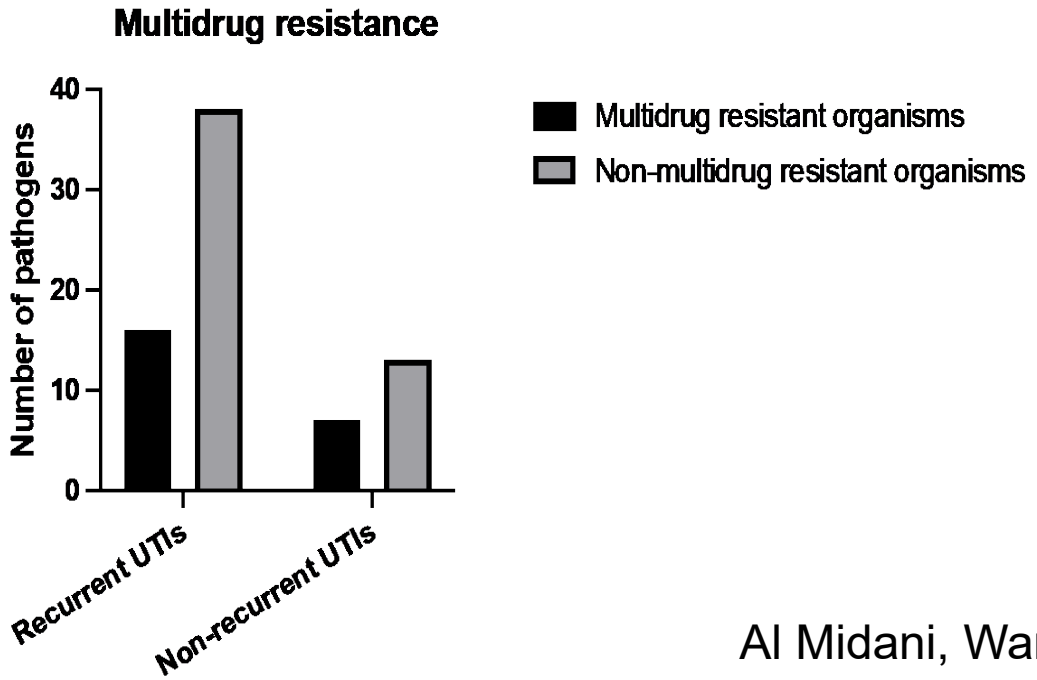
Post Kidney Transplant UTIs RFH:

- Most common post Tx infection
- 8% ≥ 1 UTI in 1st year (4% RUTI)
- Single and recurrent UTIs associated with increased mortality and graft loss (up to 50% at 5 years
- No consensus guidelines for RUTI in KTR-treated with extended courses of Abx,
- Increasing worldwide antibiotic resistance!!



Retrospective cohort of KTRs admitted with coded diagnosis of UTI from 1/1/12 – 31/10/19





Al Midani, Ware 2018

* Final Report *

URINE CULTURE

Laboratory Number : [redacted]

Sample Type:	Mid Stream Urine (MSU)
White blood cells:	1100 /mm3. High
Red blood cells:	0 /mm3.
Epithelial Cells:	0 /mm3.
Urine Culture:	See isolate

Urine Isolate(s):

1) >100,000 CFU/mL Escherichia coli

Antibiogram

	1)
Amikacin	R
Amoxicillin	R
Amoxicillin-Clavulanate	R
Cephalexin	S
Ciprofloxacin	R
Fosfomycin (Oral)	R
Gentamicin	R
Mecillinam	S
Nitrofurantoin	S
Piperacillin-Tazobactam	R
Temocillin	S
Trimethoprim	R

Key:

R: Resistant

S: Sensitive

How we manage RUTIs at RFH

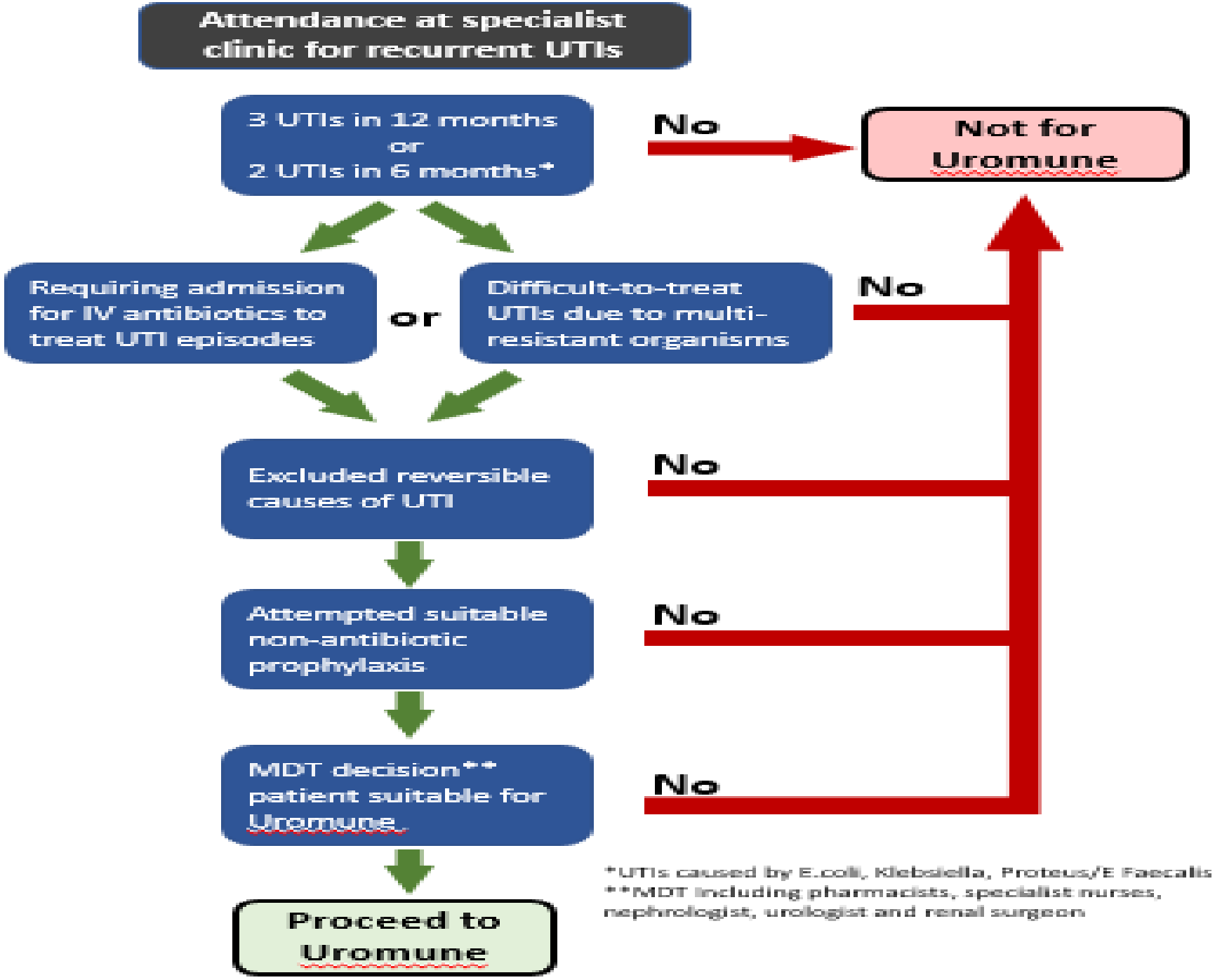
Dedicated fortnightly RUTI MDT + RUTI clinic

Assess patients for all reversible causes of UTI

Initiate patients on pharmacological and non pharmacological interventions;

- Prophylactic abx (6-12 months)
- Methenamine, D mannose, cranberry supplements, probiotics, ++H20, topical oestrogen(postmenopausal)

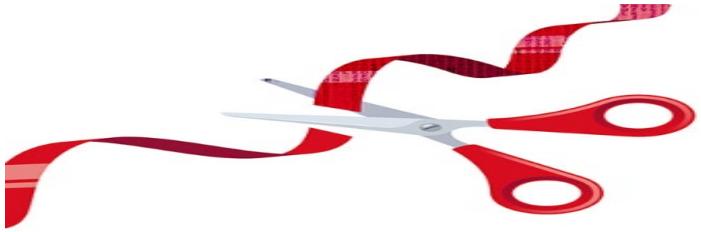
Referred to Uromune vaccine MDT…


Attendance at specialist clinic for recurrent UTIs
3 UTIs in 12 months or 2 UTIs in 6 months*
No
Not for Uromune
Requiring admission for IV antibiotics to treat UTI episodes
or
Difficult-to-treat UTIs due to multi-resistant organisms
No
Excluded reversible causes of UTI
No
Attempted suitable non-antibiotic prophylaxis
No
MDT decision** patient suitable for Uromune
No
Proceed to Uromune
*UTIs caused by E.coli, Klebsiella, Proteus/E Faecalis
**MDT including pharmacists, specialist nurses, nephrologist, urologist and renal surgeon

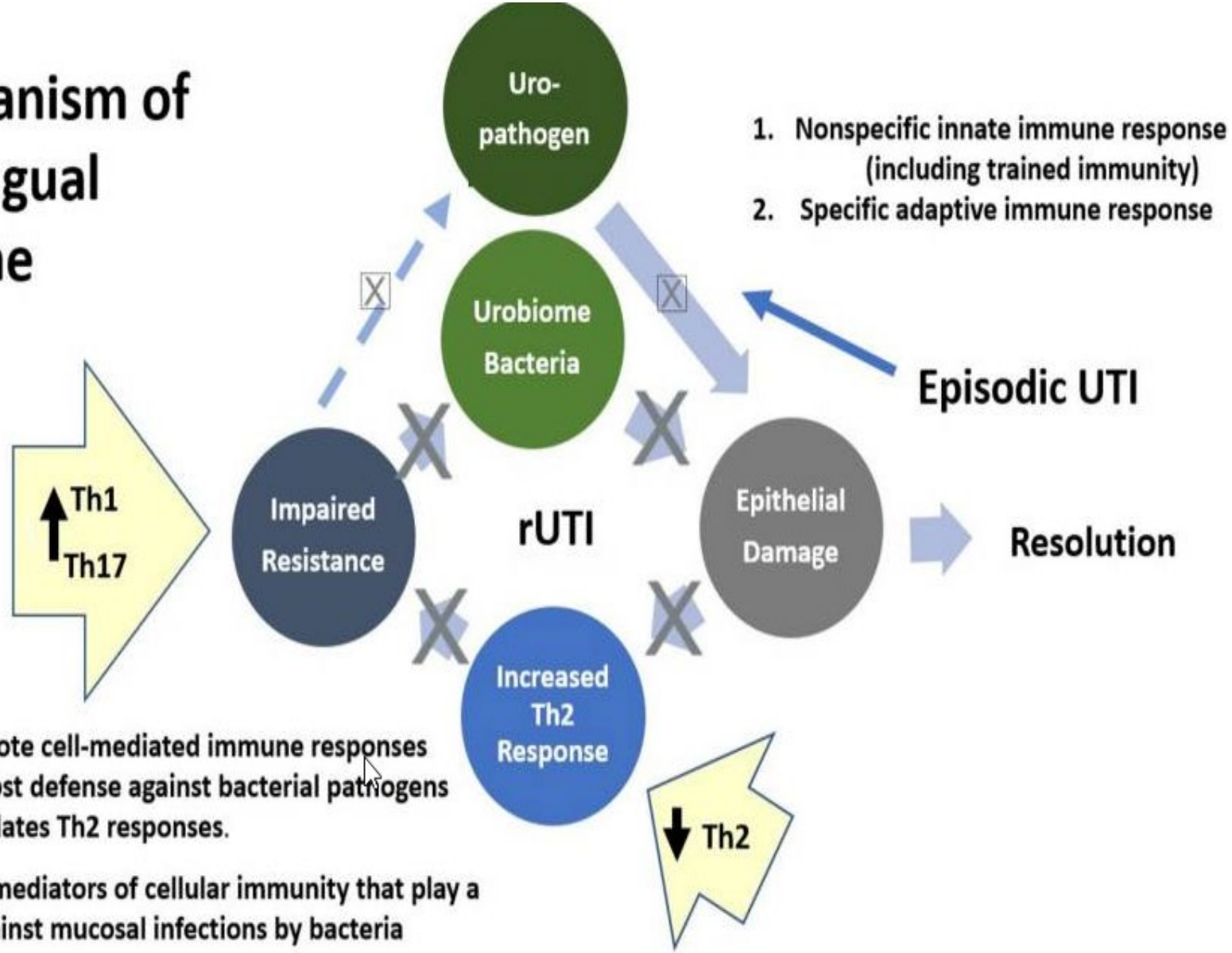
Uromune (MV-140)-what is it?

- Sublingual vaccine- Once daily for 3 months
- Whole cell inactivated bacteria;
  - Proteus,
  - Klebsiella,
  - Enterococcus,
  - E.coli

- First available for clinical use in 2010- currently unlicensed in UK.
- Long process to get on formulary at RFH
  NCL-JFC ---- DTC-----LEC----NCL-JFC!



Mechanism of Sublingual Vaccine



Th1 cells promote cell-mediated immune responses required for host defense against bacterial pathogens and downregulates Th2 responses.

Th17 cells are mediators of cellular immunity that play a critical role against mucosal infections by bacteria

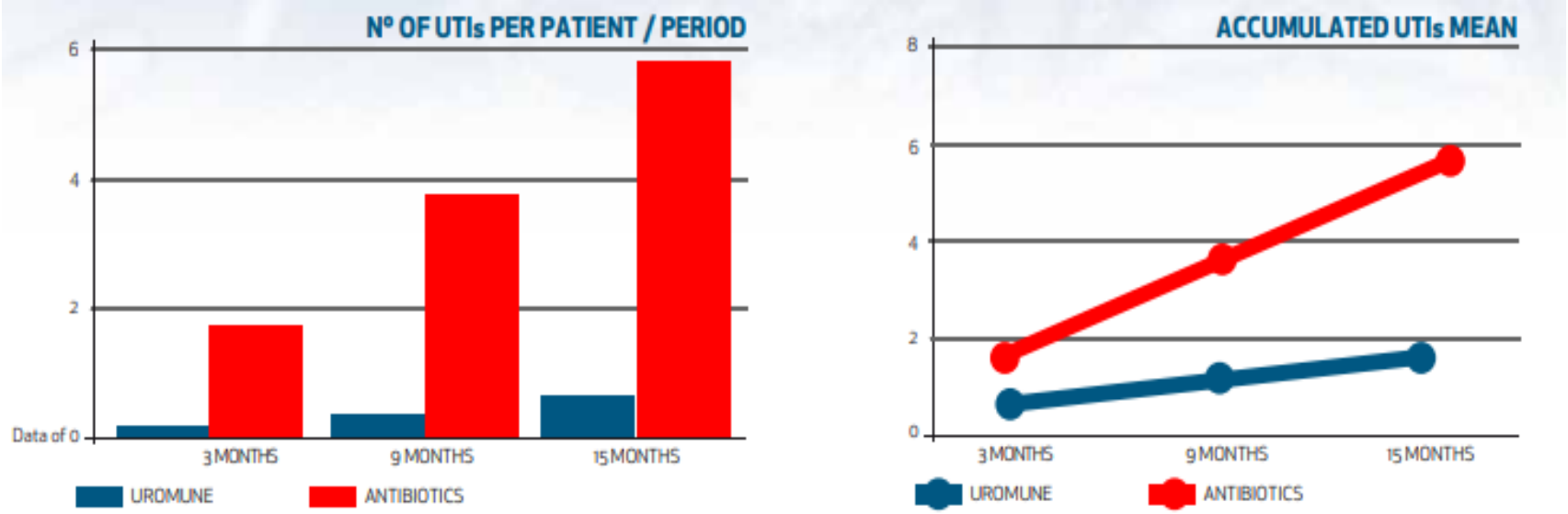
Nickel et al 2023

Uromune- existing evidence

N=319 Compared 6 months co-trimoxazole vs 3 months vaccine,

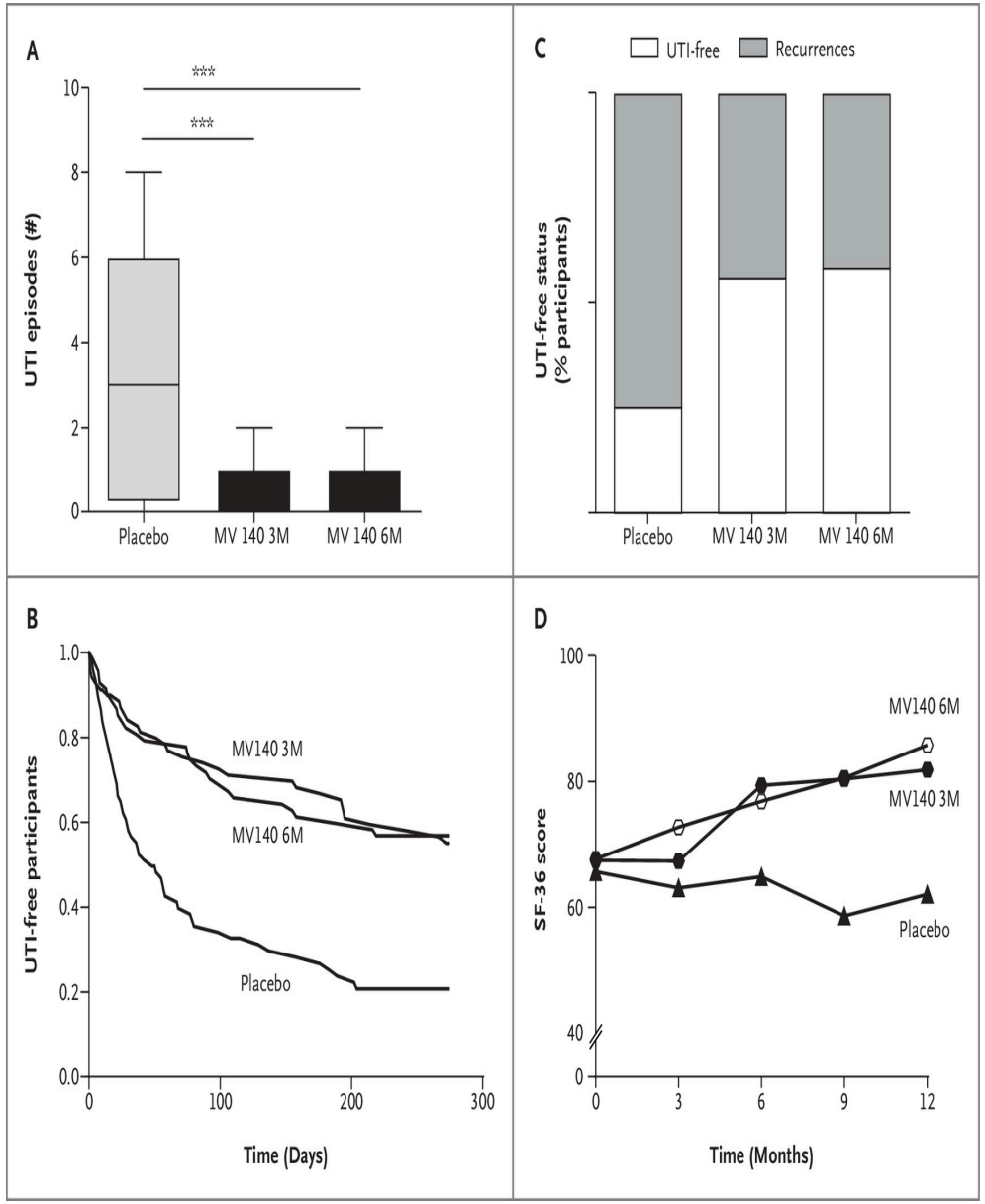
Median UTI was 0.36 versus 1.60 for abx ($P < 0.0001$) in first 3 months,

Improvement in uromune group was 75% in first 3 months and 86 and 77% at 9 and 15 months



Lorenzo-Gomes et al 2013

Uromune- existing evidence



N=240, compared placebo vs 3 or 6 months of vaccine

Median UTI placebo =3 (0.5 to 6.0) for placebo compared with 0 (0.0 to 1.0) for vaccine

25% women in placebo group free of UTI vs 56% and 58% in 3 and 6 months of vaccine

Lorenzo-Gomes et al 2022

Uromune vaccination at RFH

N=21 (19F 2M)

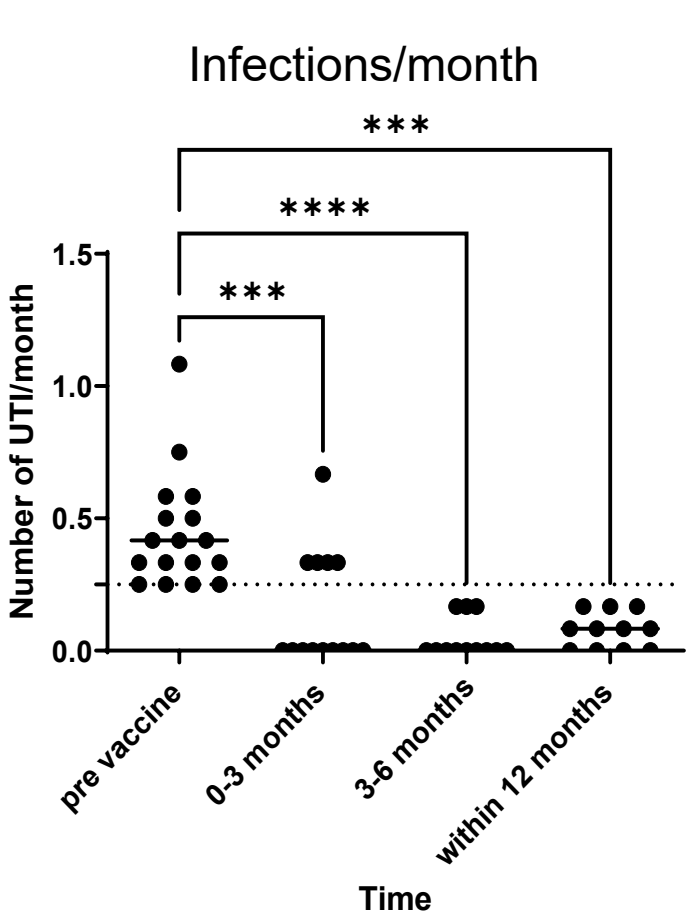
4 incomplete courses:

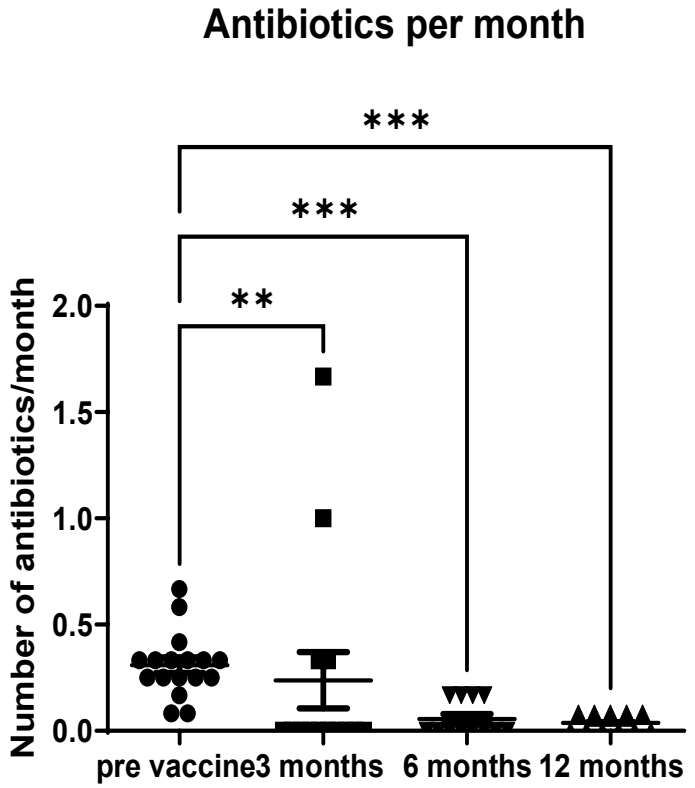
- 2 adverse events (taste, palpitations)
- 1 died of longstanding metastatic cancer
- 1 stopped at 1 month unclear reason

Analysis of those who completed at least one month, n=17

Median follow up 9.2 months (range 1-13)

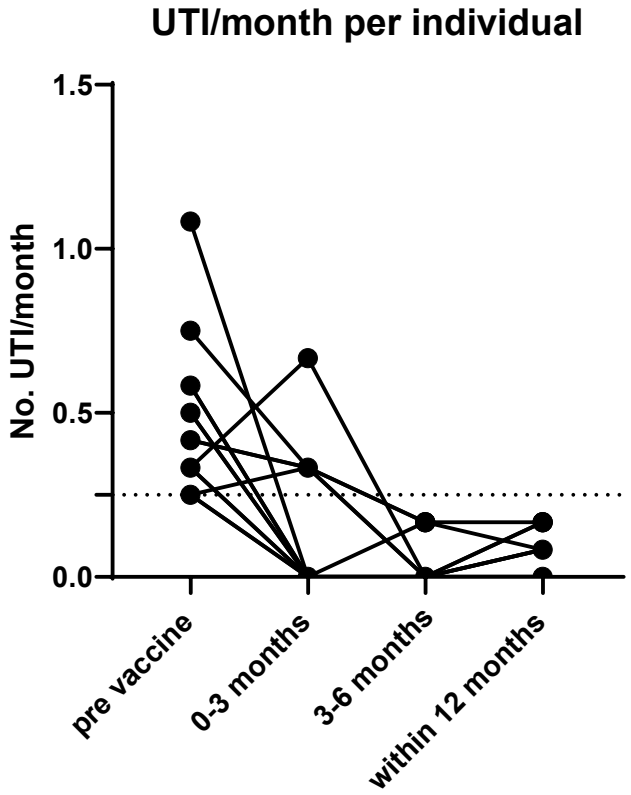
Patient Characteristics	N=17
F/M	16/1
Age /years	63 (37-76)
Tx age / months	57 (12-149)
Immunosuppression	Tacrolimus 17/17 MMF 14/17 Pred 8/17 Triple therapy 6/17
No. UTI/month	0.42 (0.25-1.1)
No. new antibiotic doses/month	0.33 (0.08-0.7)
No. of hospital admissions in year prior to vaccine	1 (0-3)
No. of hospital days in year prior to vaccine	3 (0-29)

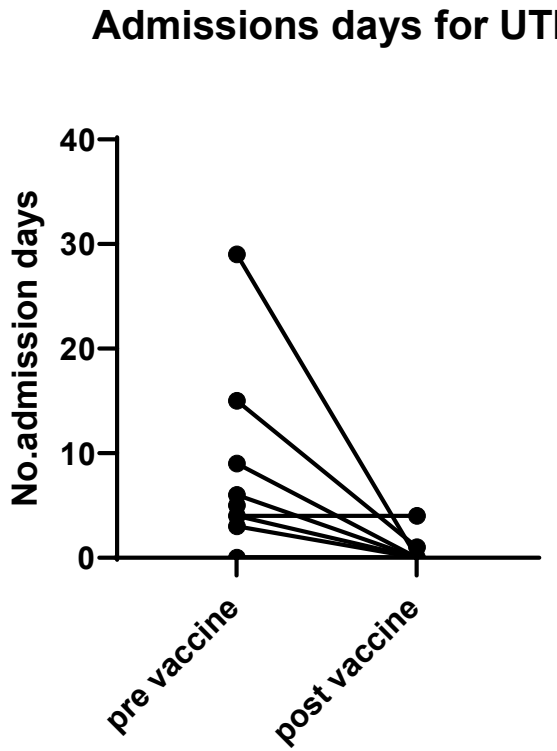




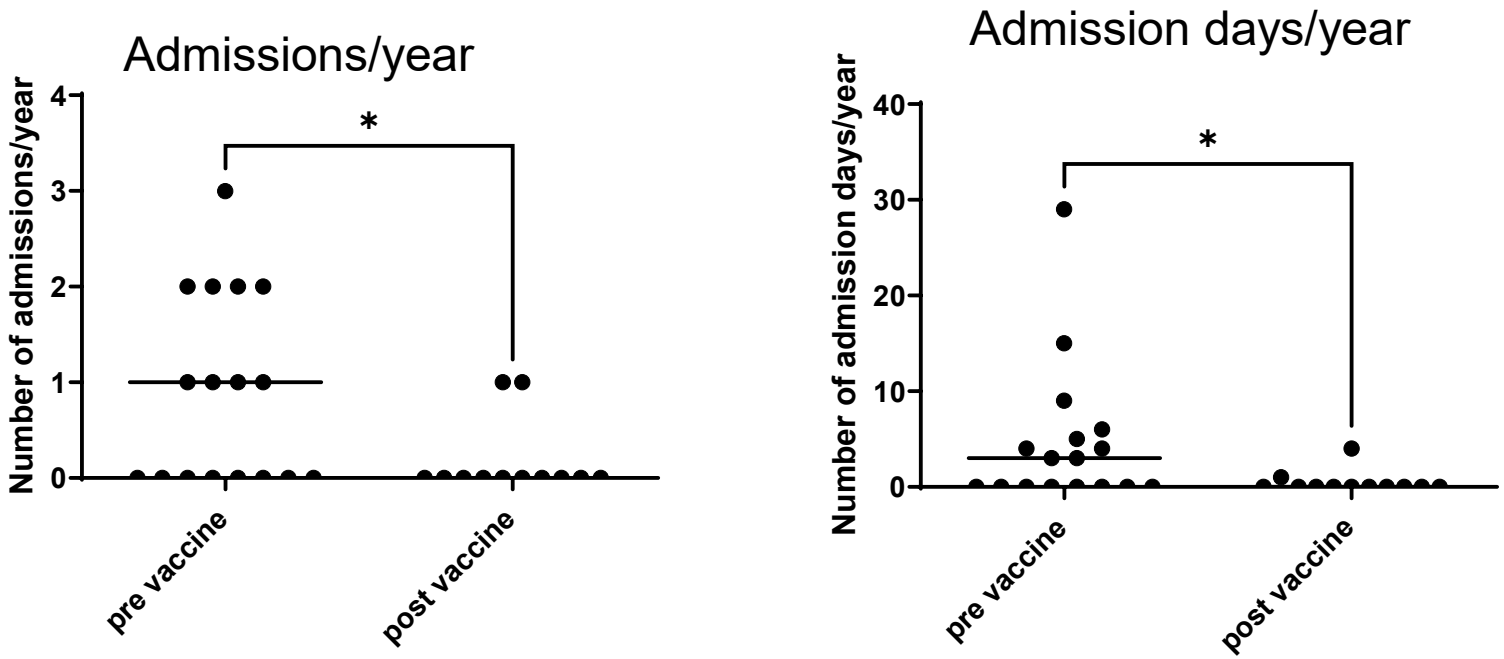
	Pre Vaccine	First 3 months	Month 3- 6	Within 12 months	p
UTI/month	0.42 (0.25-1.1)	0 (0-0.67)	0 (0-0.17)	0 (0-0.17)	P<0.0001
Antibiotic courses/month	0.33 (0.08-0.7)	0 (0-1.67)	0 (0-0.17)	0 (0-0.083)	P<0.0001
Admissions/year	1 (0-3)			0 (0-1)	P=0.03

Individual responses





Health Economics



Total of 78 days vs 4 days
Assuming £500/day cost
Total vaccine cost for 17 patients= £5100
Suggesting a total saving of approx.
£32,000

What next?

Non-antibiotic management of rUTIs represents a true, unmet need.

Uromune could be an effective strategy to reduce frequency, duration, severity, and costs of rUTIs.

Next steps at RFH…

- Ongoing monitoring beyond 12 months to assess lasting clinical protection
- Potential need for re-vaccination beyond 12 months?
- Future analysis of changes in urinary microbiome and immune responses

Happy customers!

"I noticed the difference within a few weeks"

'I haven't had an infection all month'. I started putting on weight and I am back riding my horse and swimming which meant I could compete in the transplant games."

"This year I have been to Vienna, to Australia and to Denmark and in a few months' time I'm going to Greenland – I was not well enough to do that before I had the vaccine."

"I would recommend it to other kidney transplant patients. Without doubt it's made a huge difference to my life.

UCL
Centre for Kidney & Bladder Health

Royal Free London NHS
NHS Foundation Trust

Questions?

world class expertise local care

Q&A – UKRPG Conference 11th/12th October 2024

- **40th Anniversary of RPG Conference!**
- Conference registration closes 21st September
- £250 for both days (including dinner/celebrations and accommodation on Friday evening)
- Abstract submission opens 28th June
- All posters/abstracts encouraged including if presented at UKKW
- Looking for more volunteers to join the conference committee
- Looking for abstract markers and facilitators for the conference
- Contact linda.ross@gstt.nhs.uk / poojamehta.gudka@nhs.net to get involved
- A number of bursaries may be available – further details to follow, however please do start exploring local funding options ASAP

- Deadline for abstracts extended till 16th Sept
- **Deadline for registration extended till 21st September**

Updates

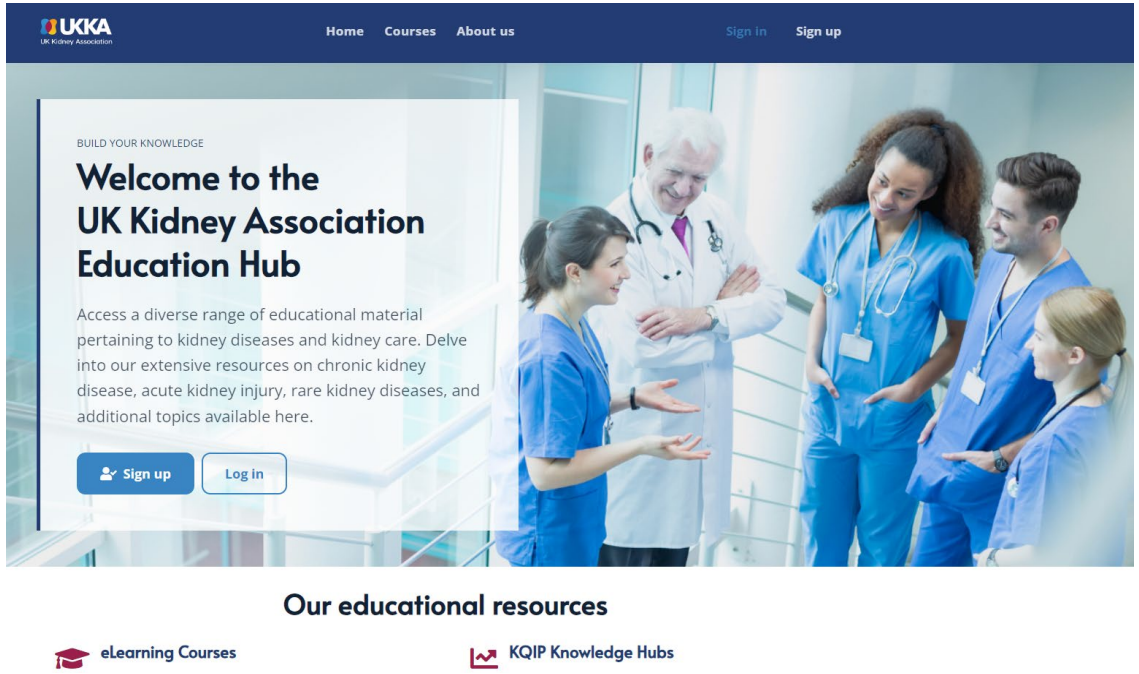
- **RPG conference 2024 11th/12th October** - Registration opens 28th June ☺
  - Birmingham Arden Hotel, £250 for full programme
  - Programme circulated via whatsapp
  - Abstract submissions open

- Monthly teams chat for advanced/consultant portfolios
  - Email cathy.pogson@porthosp.nhs.uk if you would like to join
  - Members have been linked up into smaller groups to work together and then link back into the bigger group in time
  - Monthly meetings to suspend until over summer

- Reminder to check your RPG membership is up to date
  - Large number of lapsed memberships, currently being checked against the Q&A whastapp group list
  - If you are not receiving the emails from UKKA, email the secretarial team (Caitlin Sewell)

Updates

- KRUK have opened applications for research grants 🤩
  - Pharmacy-led research and research into nephrotoxicity grants
    - Speak to Kathrine Parker, Dane Howard or Cathy Pogson for more information
- UKKA guidance on measles
- UKKA Education and Training Hub is now live
  - UKKA Learning Hub (ukkidney.org)
  - Resources on CKD, Glomerulonephritis and Transplantation
  - Other resources and links to follow



Supply Problems

- Taurolock U/Alteplase
  - Taurolock U back
  - Alteplase 2mg back

- Dailiport 0.5mg resolved – still filtering through

- Ibandronate/Pamidronate
  - Unlicensed pamidronate being explored
  - Some centres looking into using zolendronic acid/denosumab depending in indication

- 5% HAS
  - Units diluting higher strength HAS to achieve 5% concentration

- Vanquoral 10mg
  - OOS until March 2025
  - Options to switch to Neoral for low dose patients (likely small numbers) no additional monitoring required (GSTT experience)

- Basiliximab remains on allocation only
  - Resolution expected ?next month

Q&A – New Qu

- Is fondaparinux used in PD (prophylaxis)?
  - Not tried at north Bristol, GSTT or Oxford

- Semaglutide or tirzepatide for obesity in dialysis patients?
  - Cohort of HD patients in pre-transplant MDT (pharmacists, dietetic, psychology, nursing, surgeons, physio) clinic at Imperial on semaglutide 1mg weekly (tolerating ok so far)
  - Tirzepatide monograph due to be added to renal drug database soon
  - Commissioning challenges due to increased demand

- Non-dialysis CKD ESAs still via secondary care – yes most places put through

Q&A – New Qu

- TIN guideline? E.g. PPI drug reaction

- Nicola K looking for any etelcalcetide protocols – see whatsapp Q&A

Q&A Themes - Guidelines

- Monthly evidence update from Portsmouth clinical librarians 🙌
- Roxadustat/anaemia guidelines
- Albumin dilution guidelines
- Enoxaparin in CrCL <30
- Etelcalcetide/2HPTism guideline

Q&A Themes - Renal

- Generic eculizumab +/- homecare
- Family planning & tolvaptan
- Generic tiopronin M/r 100mg
- Rituximab frequency in FSGS
- Potassium citrate to flush nephrostomy
- Funding for RDD
- Ioflupane for DaTscan in CKD 4/5
- Availability of Corticorelin
- SC infliximab commissioning for sarcoidosis
- Semaglutide in T2DM/CKD
- ePrescribing advice
- CKD/low clearance clinics – Job planning
- Lower age limits for tolvaptan
- Secukinumab for psoriasis in CKD 4
- Avacopan via NG

Q&A Themes - Renal

- Job planning/progression
  - Workforce planning
- Obintuzumab for FSGS/MCD

Q&A Themes - Dialysis

- Taurolock & eosinophilia
- Sulfasalazine in HD
- Pt self admin of IP Abx for peritonitis
- Circuit anticoagulation in HIT
- Fondaparinux for thrombosis in HIT/HD
- Co-amoxiclav dosing in HD
- Valganciclor dosing in HD
- Batch no recording for EPO on HD
- Temocillin dosing in HD

Q&A Themes - Transplant

- Leflunimide for BK virus
- SC Campath admin
- Tac admin in gastrectomy
- Gainshare for I/S switching
- Nurse adjustment of tacrolimus doses
- Conversion of tacrolimus to ciclosporin (x30)
- Loading doses of CyA
- GLP1 to enable transplantation
- BK Virus data collection

Sept Q&A - Close

Thank you for attending!

Next Q&A: Tuesday 15th October

Keep in touch throughout the month on **WhatsApp Q&A Group**

- >100 participants throughout UK and Ireland
- Useful real time forum for clinical Q's
- Please consider joining!


UKRPG