Symptom management in ESRD

Frank Brennan
Palliative Care Consultant
St George Hospital Sydney

Renal Supportive Care Symposium
St George Hospital August 19 2011

- Background
- Symptoms – prevalence and management
- Clinic experience in brief

Palliative Care/ a palliative approach can play an important role throughout the course of ESRD

Realistically, given issues of manpower,

it may not be possible for a Palliative Care health professional to be present in every Renal Unit

What are the core competencies in a “Palliative approach” to patients with ESRD ?

4 Pillars of a Palliative approach

- Communication
- Symptom management
- Psychosocial support
- Care of the dying patient

Why is symptom management an important aspect of patient care ?

- Symptoms are prevalent
- Symptoms are multiple
- Symptoms are burdensome

"Patients with CKD, particularly those with ESRD are among the most symptomatic of any chronic disease group."

Murtagh F, Weisbord S. Symptoms in renal disease. In Chambers EJ et al (eds) *Supportive Care for the Renal Patient* 2010, 2nd ed, OUP.

What are the common symptoms associated with ESRD ?

The Prevalence of Symptoms in End-stage Renal Disease : A systematic Review

Murtagh FE et al. *Advances in Chronic Kidney Disease*
Vol 14, No 1 (January) 2007; pp 82-99

A Cross-sectional Survey of Symptom Prevalence in Stage 5 CKD managed without Dialysis

Murtagh FEM et al. J Pall Med (2007) 10;6:1266-1276

SYMPTOM PREVALENCE

	Dialysis	Conservative
FATIGUE/TIREDNESS	71%	75%
PRURITUS	55%	74%
CONSTIPATION	53%	
ANOREXIA	49%	47%
PAIN	47%	53%
SLEEP DISTURBANCE	44%	42%

SYMPTOM PREVALENCE

	Dialysis	Conservative
ANXIETY	38 %	
DYSPNEA	35 %	61 %
NAUSEA	33 %	
RESTLESS LEGS	30 %	48 %
DEPRESSION	27 %	

Symptom control is challenging

Symptoms interact and compound each other

U.Pruritis
RLS → Insomnia → Fatigue
Pain

Symptoms may derive from the co-morbidities

ESRD constrains the use of medication

Pharmacology in the context of CKD is complex

Multiple gaps in knowledge

Recommendations in published data occasionally conflict on the specific doses of medications to be used.

Principles of symptom management

1. Think of the cause(s).

2. Be meticulous

3. Principle of non-abandonment

Background of symptoms

ESRD
and its treatment

Co-morbidities

FATIGUE

Complex and multifactorial

- Anaemia - Hb best kept at 11-12
- Electrolyte imbalance

Hyper K
Hyper Ca

Hypo K
Hypo Ca
Hypo Mg
Hypo Na
Hypo PO4

- Nutritional deficiency
- Depression
- Insomnia > Daytime somnolence
- Pain > deconditioning

Fatigue will have an effect on multiple other aspects for the patient :

- QOL
- ADLs
- Need for transport assistance
- Frustration

Management

- Optimize Dialysis
- Correct reversible causes
- Physiotherapy
- Sleep Hygiene
- Social Supports

- If profound – consider Ritalin 10mg mane

PAIN

Impact on QOL

Davison (2002)

69 dialysis patients

62% stated that pain interfered with their ability to participate and enjoy recreational activities.

51 % stated that pain caused them “extreme suffering”

41 % stated that pain caused them to consider ceasing Dialysis

Positive correlation with depression

Davison S, Jhangri GS. J Pain Symptom Management 2005; 30(5): 465-473

In the DOPPS Study - up to 75 % of dialysis patients with moderate to severe pain were not prescribed any analgesia.

Bailie GR et al. Kidney International 2004; 65: 2419-2425

Causes of Pain

ESRD and its treatment

Co-morbidities

ESRD and treatment

Disease related :

- Polycystic Kidney Disease
- Renal Bone Disease
- Amyloid
- Calciphylaxis

Dialysis-related pain :

- PD pts with recurrent abdominal pain
- AV Fistulae > ‘Steal syndrome’
- Cramps

Co-morbidities

- OA
- Diabetic peripheral neuropathy
- PVD / IHD
- Phantom limb pain

Pain etiquette

- ENQUIRE REGULARLY
- RESPOND COMPASSIONATELY
- TREAT COMPETENTLY
- REFER WISELY

Principles of pain management

1. Always enquire about pain.
2. Treat the underlying cause of the pain.
3. Treat the pain meticulously.
4. Treat the pain proportionately.
5. Constantly reassess.

Are there authoritative guidelines for pain management in patients with CKD ?

Clinical Algorithm and Preferred Medications to Treat Pain in Dialysis Patients

Mid-Atlantic Renal Coalition (MARC) and the Kidney End-of-Life Coalition of the USA, 2009

The Use of Opioid Analgesia in ESRD Patients Managed Without Dialysis : Recommendations For Practice

Murtagh FEM. *J Pain & Palliative Care Pharmacotherapy* 2007;21(2); 5-16.

Suggested Guidelines for using the WHO Analgesic Ladder in patients with severe CKD and ESRD

Davison S et al. Management of Pain in Renal Failure. In : Chambers EJ et al. *Supportive Care for the Renal Patient*. 2nd ed. 2010.

A European Palliative Care Research Collaborative Opioid Guidelines Project

A systematic review of the use of opioid medication for those with moderate to severe cancer pain and renal impairment.

Palliative Medicine 2011; 25(5): 525-552.

Opioids and the Management of Chronic Severe Pain in the Elderly : Consensus Statement of an International Expert Panel

Pergolizzi J et al. *Pain Practice* 2008; 4(8): 287-313.

Mild pain

Paracetamol

- Metabolised in liver
- 2-5 % excreted unchanged renally
- Inactive metabolites
- No dose adjustment = 1g qid

"It is considered the non-narcotic analgesic of choice for mild-moderate pain in CKD patients."

Davison S, Ferro CJ. Management of Pain in CKD. *Progress in Palliative Care* 2009; 17: 186-195.

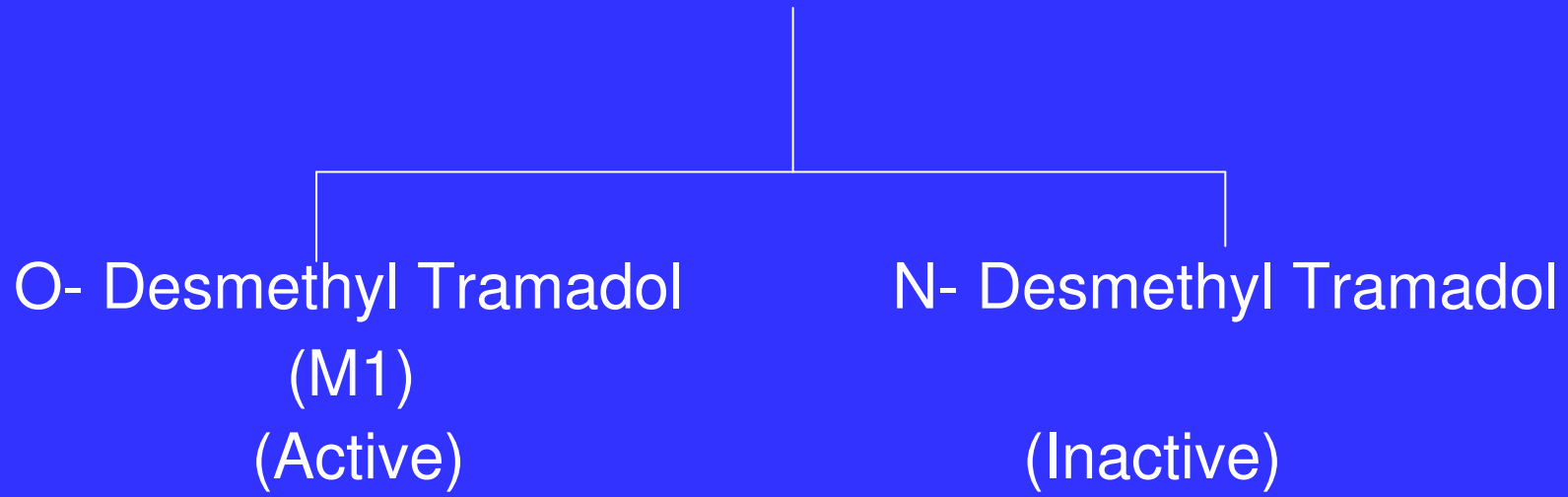
Moderate pain

Weak opioid

Tramadol

86% Metabolised in Liver

Tramadol



90 % of Tramadol and its metabolites are Renally excreted

Need for dose adjustment

Tramadol “is the least problematic of the Step 2 Analgesics for ESRD patients”

Nevertheless, use with caution – use a bd dose.

If on Dialysis

Commence 25 mg bd

Maximum 50 mg bd

Clinical Algorithm. MARC and Kidney EOL Coalition. 2009.

If on a Conservative pathway

eGFR > 15

Commence 50mg bd

Maximum 100mg bd

Davison S, Ferro CJ. *Progress in Palliative Care* 2009; 17(4): 186-195.

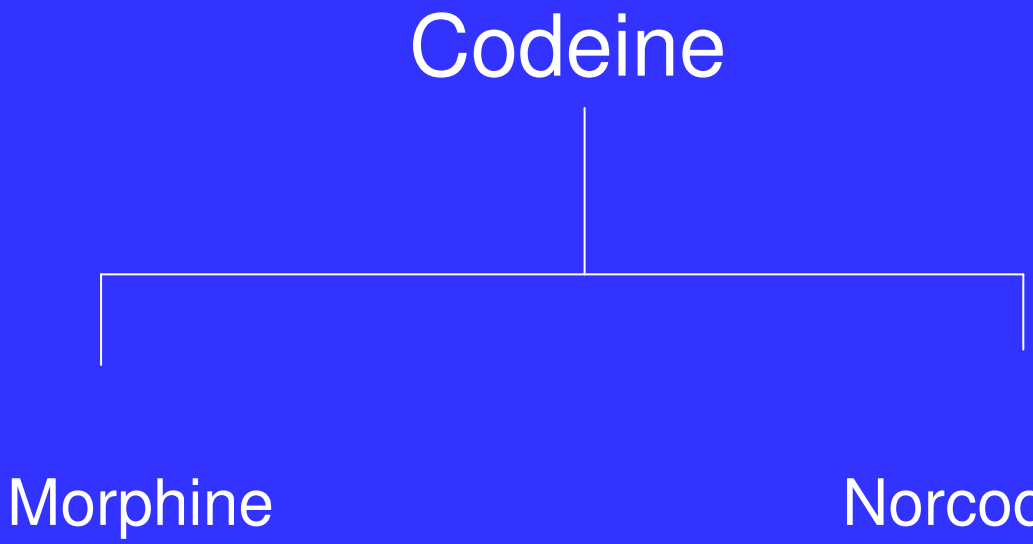
If on a Conservative pathway

eGFR < 15

Tramadol 50mg bd (maximum)

Codeine

Metabolised in Liver



"We advise caution with chronic use of codeine in CKD patients and suggest limiting doses to 120mg or less per day."

Davison S, Ferro CJ. Management of Pain in CKD. *Progress in Palliative Care* 2009; 17: 186-195.

Digesic

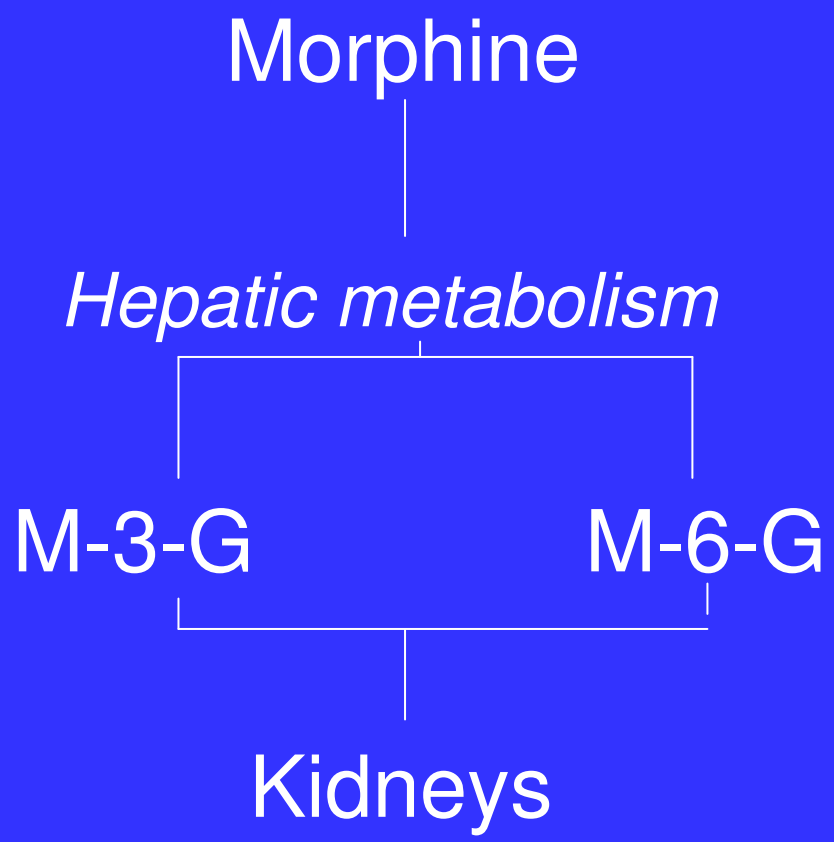
= Dextropropoxyphene + Paracetamol

- Major active metabolite of Dextropropoxyphene is Norpropoxyphene
- Accumulates in CKD -- toxicity
- Not recommended in patients with significant CKD

Davison S. Pain Assessment and Management in ESRD. Lecture given on February 17 2010. Accessible at www.kidneyeol.org/resources.htm. See under tab marked "Physician/Clinician Education".

Moderate to severe pain

Morphine


Morphine
Hepatic metabolism
M-3-G
M-6-G
Kidneys

Morphine is not recommended in CKD

Hydromorphone

Metabolised in Liver

Hydromorphone

Hydromorphone -3- Glucuronide

Hydromorphone-3-Glucuronide

- Toxicity in rat studies
- Toxicity in case studies in humans

"The activity of H-3-G in humans has yet to be fully established"

Murtagh FEM *J Pain & Palliative Care Pharmacotherapy* 2007;21(2); 5-16.

"…there are no controlled trials supporting the neuroexcitatory action of H3G in a therapeutic context."

Davison S, Mayo PR. *J Opioid Management 2008*; 4(6): 335-344.

Use with caution

In dialysis patients

Recommendation 1

Clinical Algorithms (MAC) recommends:

Commence 0.5 mg – 1mg q 4hours po and 1mg prn and titrate

Recommendation 2

Commence 1mg q 6hours and prn

Davison S, Ferro CJ. *Progress in Palliative Care* 2009; 17(4): 186-195.

Conservative pathway

Hydromorphone “may not be as effective or as well tolerated” in this setting.

Davison S, Ferro CJ. *Progress in Palliative Care* 2009; 17(4): 186-195.

Recommendation 1

- Commence low - 1mg qid.
- If tolerated move to a q4hours dosing
- Titrate up dose carefully – once pain well controlled aim to convert to Fentanyl patch

Davison S, Chambers EJ, Ferro CJ. Management of pain in Renal Failure. In Chambers EJ et al (eds) *Supportive Care for the Renal Patient* 2010, 2nd ed, OUP.

Recommendation 2

Commence 1.3 mg q 8 hours

Farrell A, Rich A. European *J Palliative Care* 2000; 7(6): 201-205.
Murtagh FEM. *J Pain & Palliative Care Pharmacotherapy* 2007;21(2); 5-16.

Oxycodone

Short-acting

Endone

Oxynorm

Long-acting

Oxycontin

Use with caution

MAC Clinical Algorithms

“Insufficient pharmacokinetic evidence to establish safety in CKD, but literature reports use without major adverse effects.”

MAC Clinical Algoritim

- Metabolised by liver
- Active metabolites are eliminated mainly by hepatic metabolism
- Single dose study showed prolongation of oxycodone and its metabolites

"There are no long term studies of chronic use in renal failure and the conflicting case reports mean there is insufficient evidence currently for a recommendation."

Davison S, Chambers EJ, Ferro CJ. Management of pain in renal failure. In Chambers EJ et al (eds) *Supportive Care for the Renal Patient* 2010, 2nd ed, OUP.

Fentanyl

- Metabolised in Liver
- Inactive metabolites
- 5-10 % excreted unchanged renally
- Fentanyl is not dialysed

Fentanyl is safe to use at standard doses

Buprenorphine

= Norspan

Buprenorphine – 3 – Glucuronide (B-3-G)

Norbuprenorphine (NorB)

Both accumulate in CKD

B-3-G is inactive ; NorB has minor analgesic quality

"There is lack of evidence about longer term use in ESRD"

Brown E et al (eds) *End of Life Care in Nephrology*. 2007, p. 99.

“It may be a potentially useful analgesia for use in CKD.”

Davison S. Pain Assessment and Management in ESRD. Lecture given on February 17 2010. Accessible at www.kidneyeol.org/resources.htm. See under tab marked “Physician/Clinician Education”.

Methadone

- Metabolised in liver
- Excreted mainly in the feces. Some renal excretion of Methadone and its metabolites
- Not dialysed
- Safe to use, but requires skill in dosing regimen – specialist use.

The hand that writes the opioid must also write the laxative

Pain in ESRD summary

Mild pain --- Paracetamol 1g qid

Mild-moderate pain

-- Tramadol (adjusted dose)

-- Oxycodone (with caution)

Moderate to severe pain

Hydromorphone (with caution)

Fentanyl

Methadone

Always be aware that pain is complex and may be only partially opioid-sensitive – especially neuropathic pain.

Management of Diabetic Neuropathy in CKD

Pop-Busuli R et al. *Am J Kidney Disease* 2010; 55 (2): 365-385

- Paracetamol
- Opioids – weak - strong
- TCA
- Gabapentin

When in doubt contact a Pain Team

NAUSEA

Look for the cause (s)

- Uraemia → CTZ zone
- Delayed Gastric emptying
- Concurrent medications
- Constipation

Treat the symptom :

Maxalon 5mg – 10mg tds

Haloperidol 0.5mg bd
Cyclizine 25- 50mg tds
Ondansetron 4mg bd

CRAMPS

In Dialysis patients :

Secondary to removal of fluid/solutes

Treat by :

Adjusting the Dialysis Na/K
Quinine prior to dialysis
Carnitine 1-2 g IVI during dialysis

Cramps in patients not on Dialysis :

Quinine

Crampeze 1- 2 bd

Magnesium oxide, Magnesium sulphate, Vitamin B6

INSOMNIA

This may be the product of multiple other symptoms

- Pain
- Uraemic Pruritis
- Cramps
- RLS
- Periodic Leg Movement Disorder
- Sleep Apnea
- Prostatism

- Treat the cause
- Treat the symptom

General measures

- No caffeine after lunchtime
- No alcohol at night
- No smoking at night
- Temazepam 10-20mg nocte

Specific measures

If suspicious of Sleep Apnea –

Formal Sleep Study

RESTLESS LEGS SYNDROME

Definition

1. An urge to move the limbs, usually associated with parasthesias/dysthesias
2. Motor Restlessness
3. Symptoms exclusively while at rest, with relief (completely or partially) with movement.
4. Symptoms worse at night.

International RLS Study Group – Definition of RLS (1995)

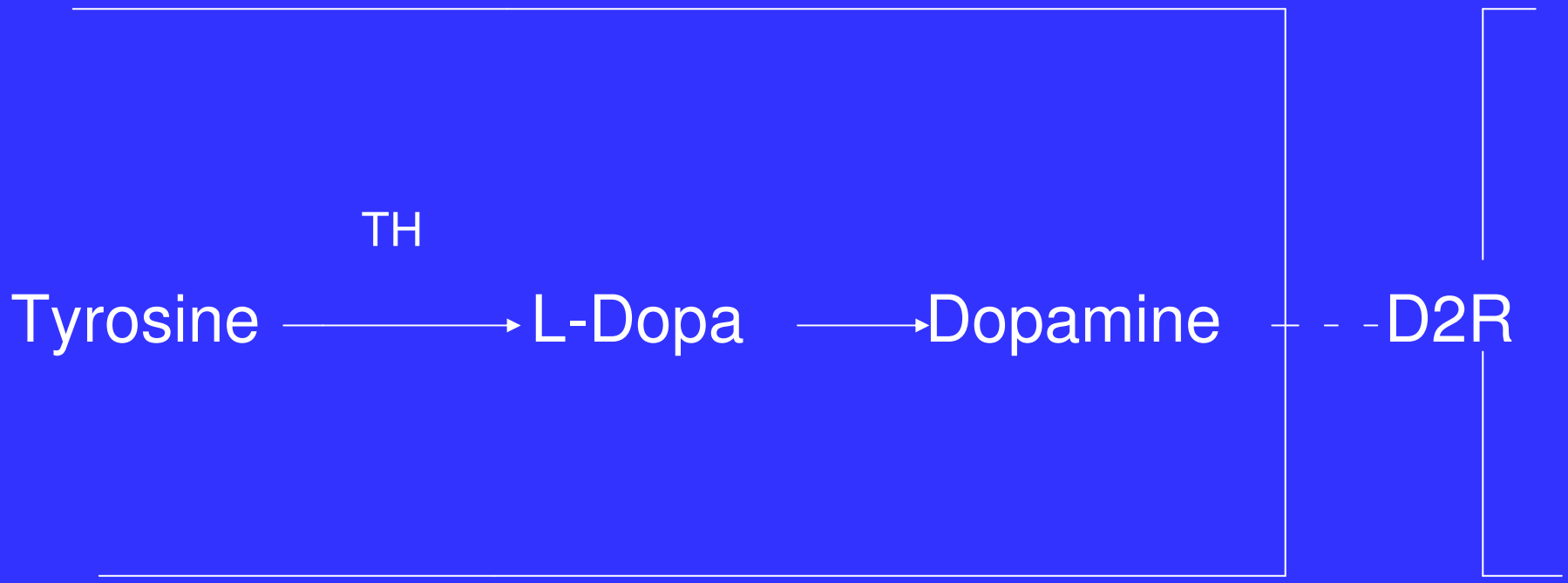
Incidence in the general population :
2-15 %

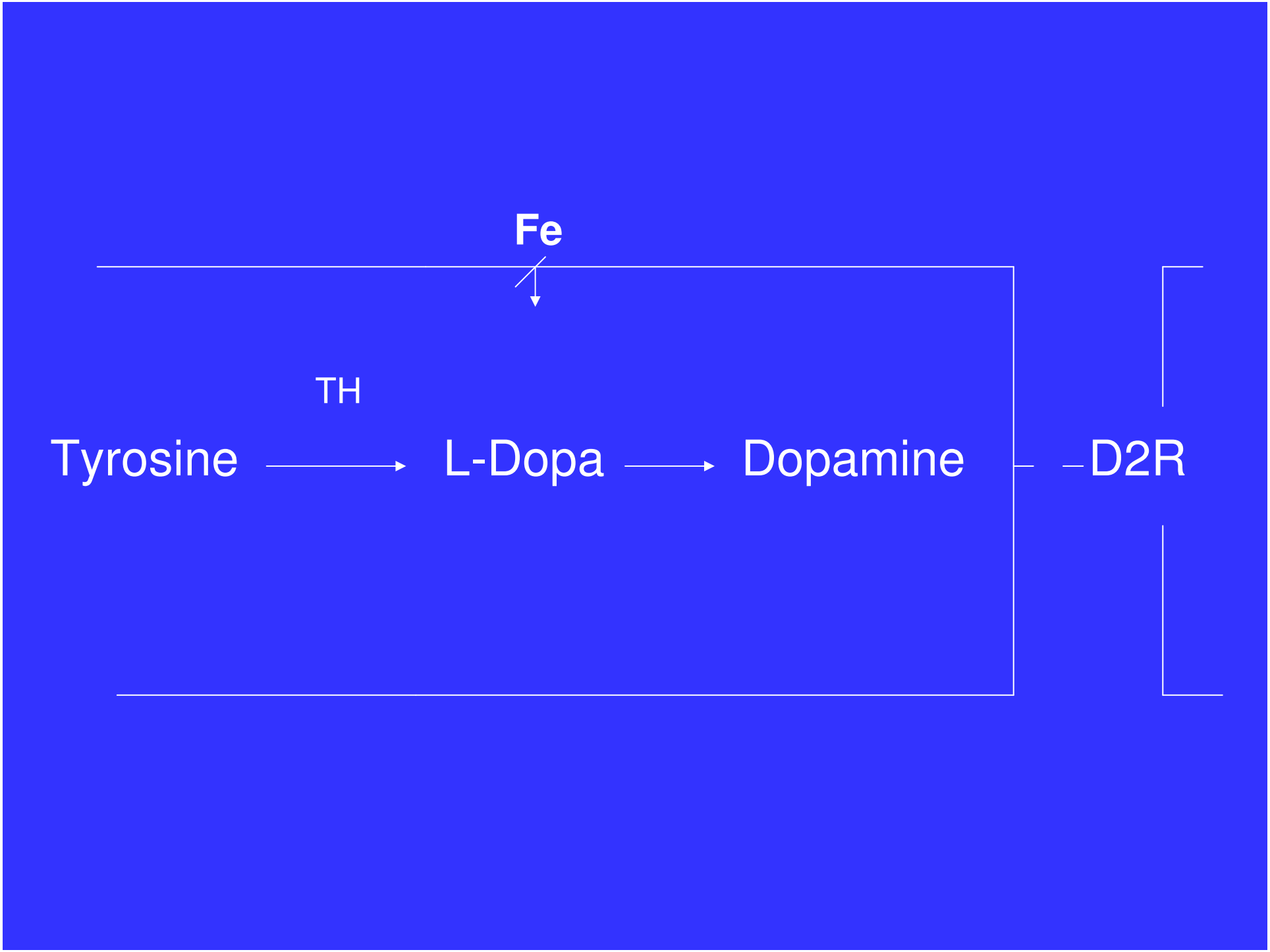
Incidence in ESRD : 20-30 %

Mechanism is not completely understood

Brain Fe metabolism

Basal Ganglia


TH
Tyrosine
L-Dopa
Dopamine
D2R


Fe
TH
Tyrosine
L-Dopa
Dopamine
D2R

Basal Ganglia ═══ Hypothalamus

(Circadian rhythm)

Management

Clonazapem

0.5mg – 1mg nocte

Dopamine agonists

- Ergot-Dopamine Agonists (Pergolide, Cabergoline)
- Non-Ergot Dopamine Agonists (Pramipexole, Ropinirole, Rotigotine)

- Augmentation
- Rebound

Gabapentin

Two Level 1 studies have shown efficacy for Gabapentin in the treatment of RLS in Dialysis patients

- Study A – Placebo controlled – Thorp et al (2001)
- Study B – Gabapentin compared to Levo-dopa – Micozkadioglu et al (2004)

On Dialysis

Gabapentin 100- 300mg after each Dialysis

On conservative management

If eGFR >15 - Gabapentin 100mg nocte

If eGFR <15 - Gabapentin 100 every 2nd night

In both situations then increase by 100mg increments

Authorities recommend caution :

"In Stage 5 CKD without dialysis it is preferable not to use."

Murtagh FEM, Weisbord D . Symptom management in renal failure. In : Chambers EJ et al (eds). *Supportive Care for the Renal Patient*. 2nd ed. 2010. OUP, p. 123.

URAEMIC PRURITUS

Associations

- Poor sleep quality
- Depression
- QOL
- Mortality

Pisoni RL, Wikstrom B et al. Neprol Dial Transplant 2006; 21: 3495-3505.

The pathogenesis of pruritus remains elusive

There are a plethora of suggested treatments

Pathogenesis

Management

Too often the literature concentrates on one or the other but rarely both

The last decade has seen considerable developments in the neuroscience of pruritus and the management of UP

The pathogenesis of pruritus


Epidermis
Dermis

Complex neural network within the dermis and nerve fibres enter the Epidermis as free nerve endings


Brain
Thalamus
Spinal Cord
Peripheral Nerve
Stimuli

C Fibres

10 – 15 % of the C fibres are itch sensitive

For many years the assumption was that the itch pathway was :

Histamine → C Fibres → Spinal Cord

Of the C Fibres that are itch-sensitive :

20 % are Histamine-sensitive

80 % are Histamine-insensitive

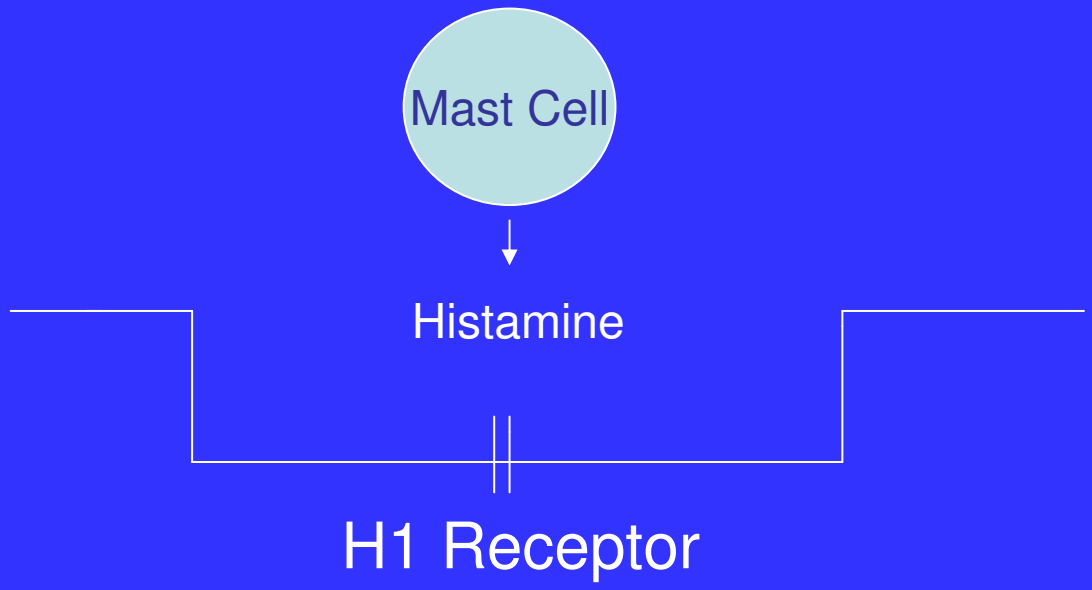
Myth 1

That all itch is histamine mediated

Myth 2

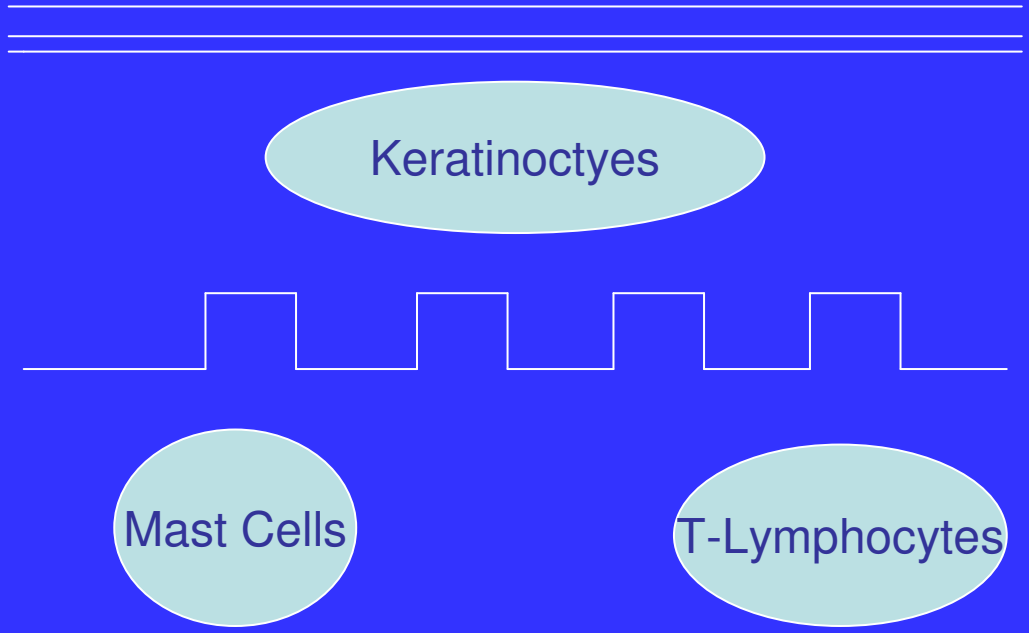
That the best first line medication for pruritus of whatever cause are Anti-Histamines

Histamine-sensitive C fibres



Histamine is the predominant mediator of IgE-induced urticaria, anaphylaxis

What triggers the Histamine-independent nerve endings ?


Keratinoctyes
Mast Cells
T-Lymphocytes

Histamine-independent C fibres

Multiple receptors and channels have been described in recent years

Dorsal Horn

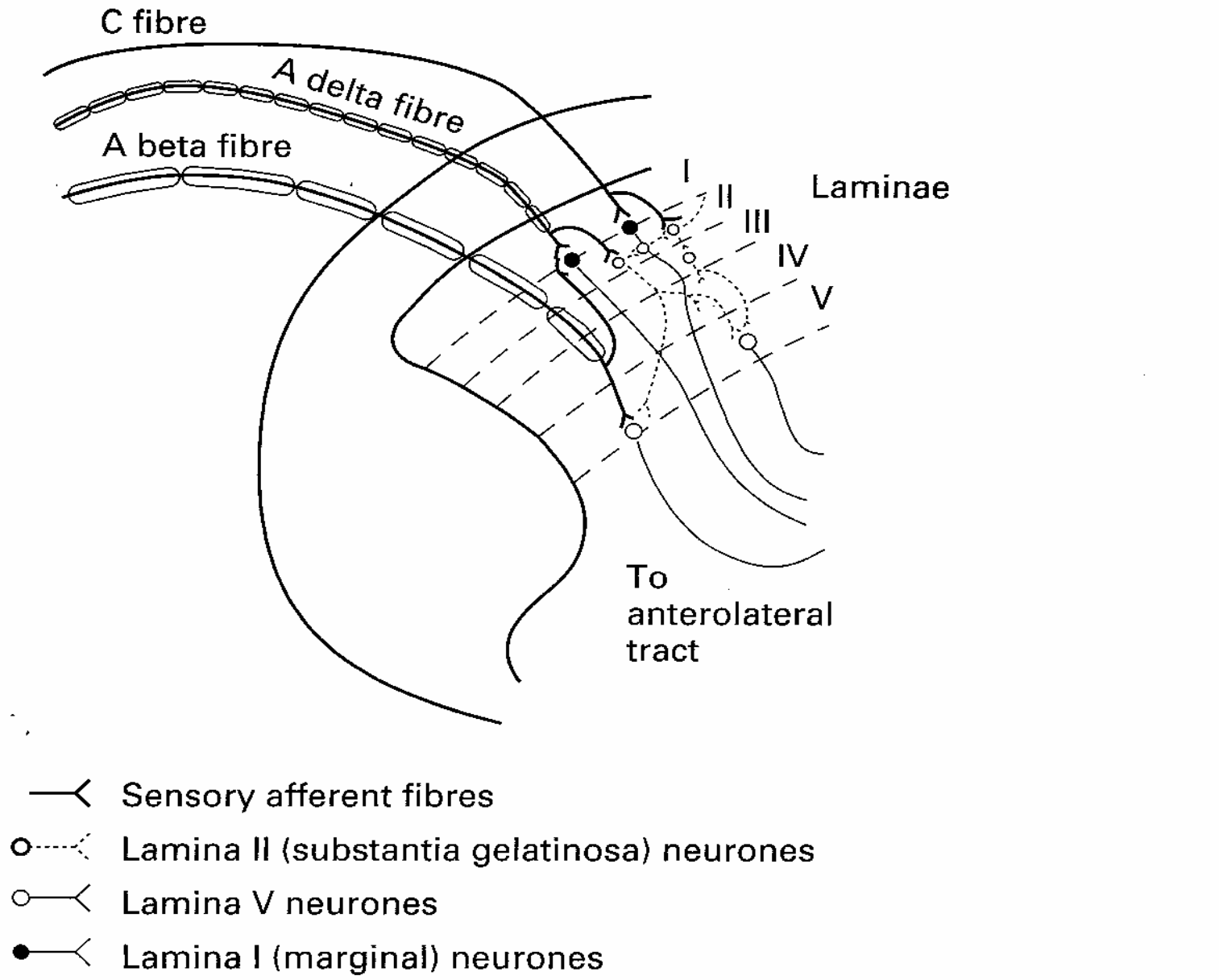


Fig. 3.4 The dorsal horn of the spinal cord. (Reproduced with permission from Hill 1986.

Dorsal Horn

Recent discovery of a Itch receptor in the Dorsal Horn common to both the Histamine- sensitive and Histamine-independent pathways :

Gastrin Releasing Peptide Receptor (GRPR)

Sun YG et al. *Science* 2009;4: 72-77.

Pathogenesis of UP

Multiple theories, conflicting findings

HyperParathyroidism

- There is no correlation between PTH levels and UP
- PTH itself is not pruritogenic

Calcium

Inconsistent findings on s.Calcium and UP

One study found increased extracellular Calcium ions in the deepest layer of the Epidermis in patients on HD with UP

Momose A et al. *Neprol Dial Transplant* (2004) ; 19; 2061-2066

Phosphate

Inconsistent findings on Phosphate and UP

s. Calcium x s.Phosphate

In the DOPPS II study

only at a very high Calcium-Phosphate product (ie. > 80 mg2/dL2)

was there a correlation with UP frequency

Pisoni RL, Wikstrom B et al. *Neprol Dial Transplant* 2006; 21: 3495-3505.

Adequacy of dialysis

Dialysis adequacy (as measured by Kt/V) did not correlate with the frequency of UP in large epidemiological studies

Pisoni RL, Wikstrom B et al. *Neprol Dial Transplant* 2006; 21: 3495-3505.

Narita et al. *Kidney Int* 2006;69; 1626-32.

Duque et al. *Clin Nephrology* 2006; 66: 184-191.

Other causes suggested

- Xerosis
- Abnormalities in afferent pain fibres
- Hypervitaminosis A
- Cutaneus divalent ion content
- Allergic sensitisation
- Bile acids
- Aluminium
- High s. Magnesium
- Histamine

"Despite this vast array of possible explanations, none consistently have been demonstrated to be the underlying cause of pruritus associated with CKD. Large epidemiological studies ultimately may facilitate our understanding of the elusive pathophysiological process of this distressing symptom."

Patel TS et al. *Am J Kidney* 2007; 50(1): 11-20.

Large number of therapies described

What therapies have the strongest foundation in evidence – based practice ?

- Oral medications
- Topical preparations
- UV Therapy

Gabapentin

There are 3 (three) Level 1 studies showing that Gabapentin has significant efficacy in treating uraemic pruritus

Gunal et al (2004)

Naini et al (2007)

Razeghi et al (2009)

Gunal et al (2004)

Randomised, double-blind, crossover, placebo-controlled trial.

25 patients on HD

Gabapentin 300mg after HD v Placebo
for 4 weeks, 1 week washout period, then reversed.

Mean initial pruritus score = 8.4 +/- 0.94

With Gabapentin = 1.2 +/- 1.8

Placebo = 7.6 +/- 2.6

$p < 0.0001$

Naini et al (2007)

Randomised, double-blind, placebo controlled trial

34 patients on HD

Gabapentin 400mg post HD twice weekly

v Placebo for 4 weeks

Initial pruritus score = 7.2 +/- 2.3

Mean decrease in score –

- Gabapentin = 6.7 +/- 2.6
- Placebo = 1.5 +/- 1.8

$p < 0.001$

Razeghi et al (2009)

- Randomised, double-blind, placebo controlled.
- 34 patients on HD
- Gabapentin 100mg post HD for 4 weeks, 1 week washout period, then 4 weeks on Placebo

Mean initial pruritus score (out of 100)

- Gabapentin = 6.44 +/- 8.4
- Washout = 15 +/- 11.2
- Placebo = 81.11 +/- 11.07

$p < 0.0001$

Dosing identical as above with RLS

Authorities recommend caution :

"In Stage 5 CKD without dialysis it is preferable not to use."

Murtagh FEM, Weisbord D . Symptom management in renal failure. In : Chambers EJ et al (eds). *Supportive Care for the Renal Patient*. 2nd ed. 2010. OUP, p. 123.

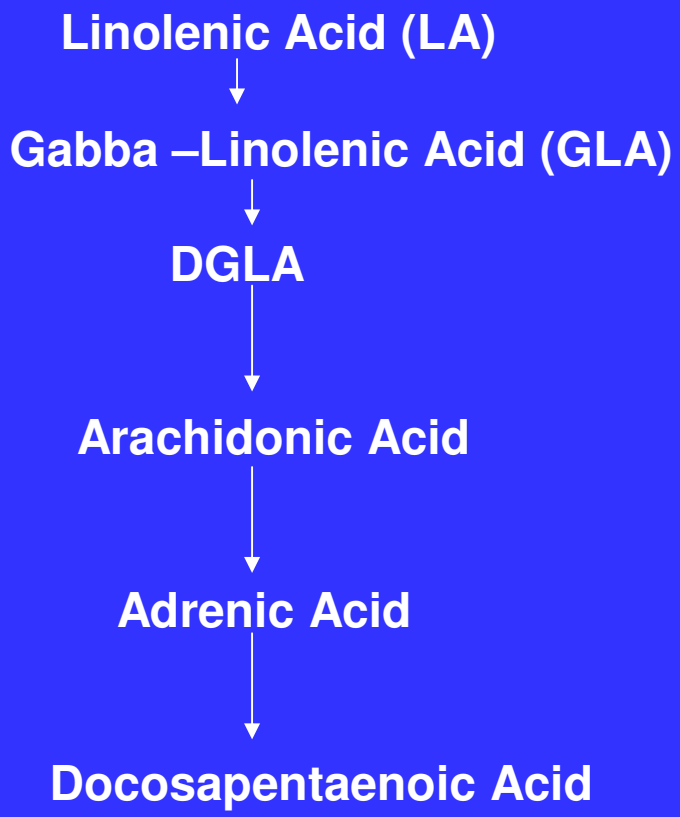
Evening Primrose Oil

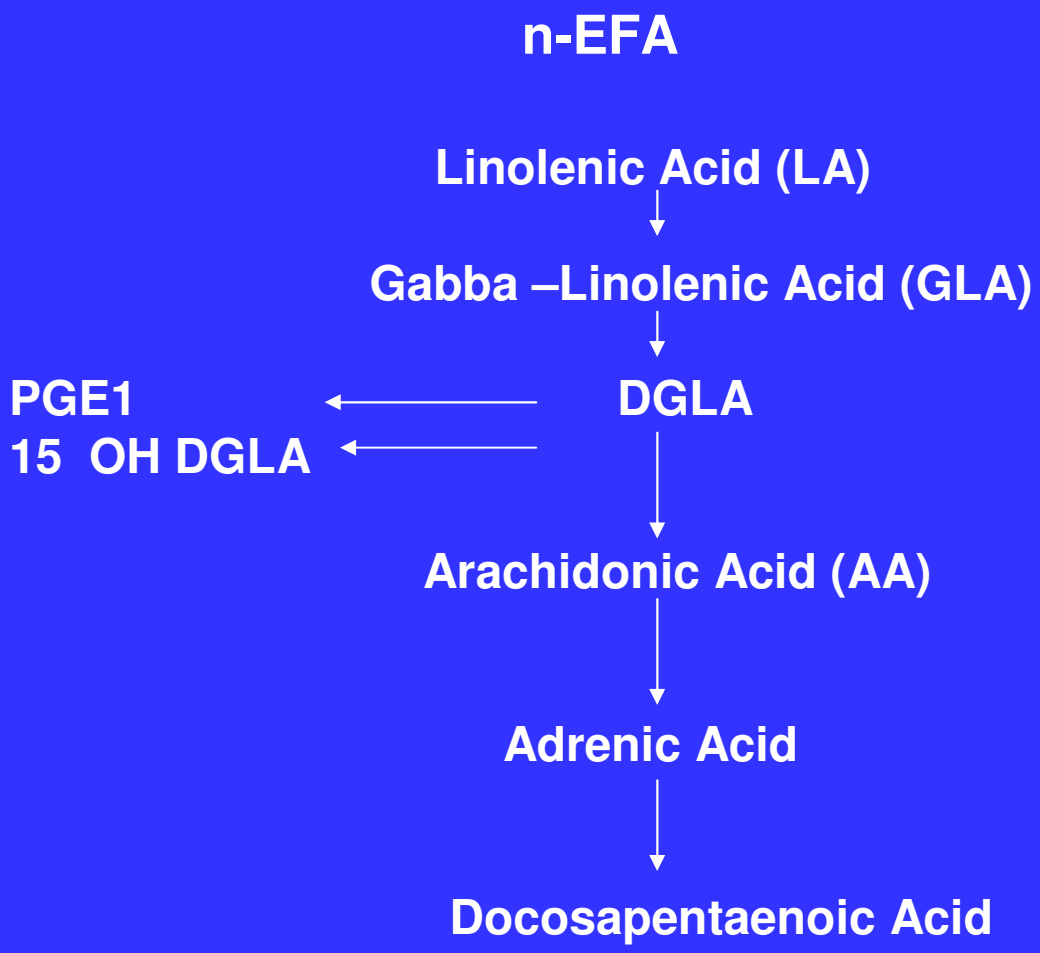
Gabba Linolenic Acid (GLA)

Essential Fatty Acids (EFA)

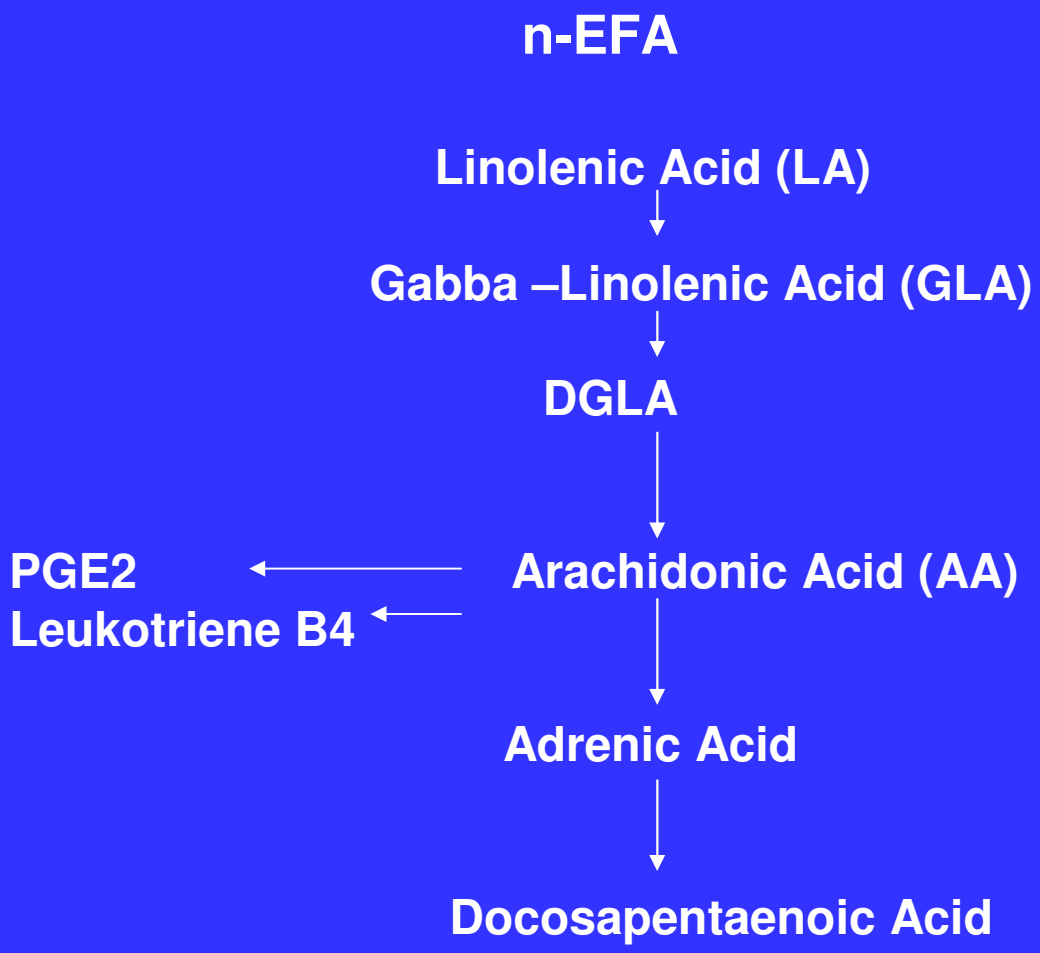
Present in the epidermis

n- 6 EFA


Linolenic Acid (LA)
Gabba –Linolenic Acid (GLA)
DGLA
Arachidonic Acid
Adrenic Acid
Docosapentaenoic Acid

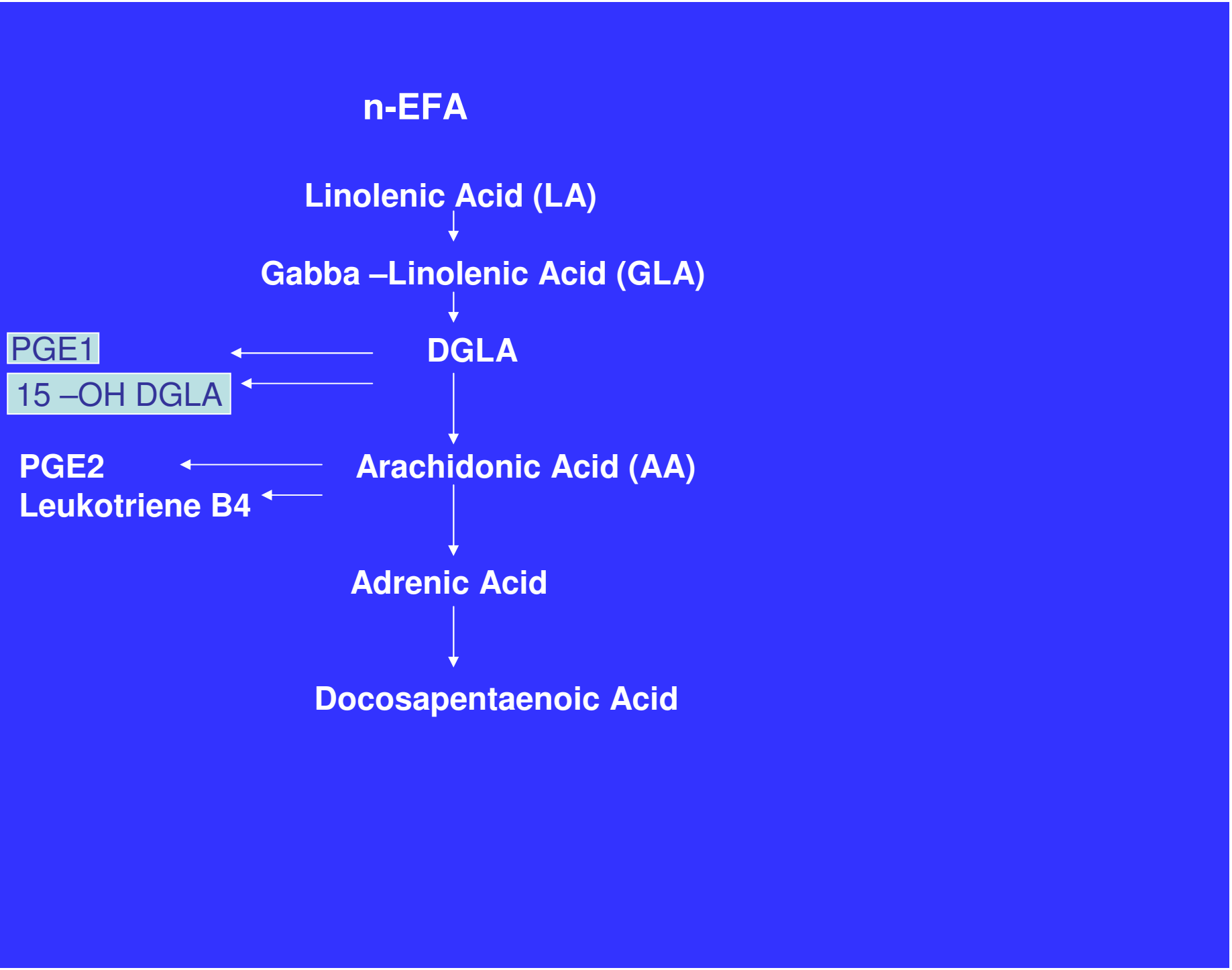

n-EFA
Linolenic Acid (LA)
Gabba –Linolenic Acid (GLA)
DGLA
PGE1
15 OH DGLA
Arachidonic Acid (AA)
Adrenic Acid
Docosapentaenoic Acid

PGE1 and 15 OH DGLA have an anti-inflammatory/ anti-pruritic effect


n-EFA
Linolenic Acid (LA)
Gabba –Linolenic Acid (GLA)
DGLA
PGE2
Leukotriene B4
Arachidonic Acid (AA)
Adrenic Acid
Docosapentaenoic Acid

- PGE 2 is pro-inflammatory
- Leukotriene B4 is very pruritogenic

So supplementing the Gabba-Linolenic Acid (GLA) has an anti-inflammatory/ anti-itch effect…


n-EFA
Linolenic Acid (LA)
Gabba –Linolenic Acid (GLA)
DGLA
PGE1
15 –OH DGLA
Arachidonic Acid (AA)
PGE2
Leukotriene B4
Adrenic Acid
Docosapentaenoic Acid

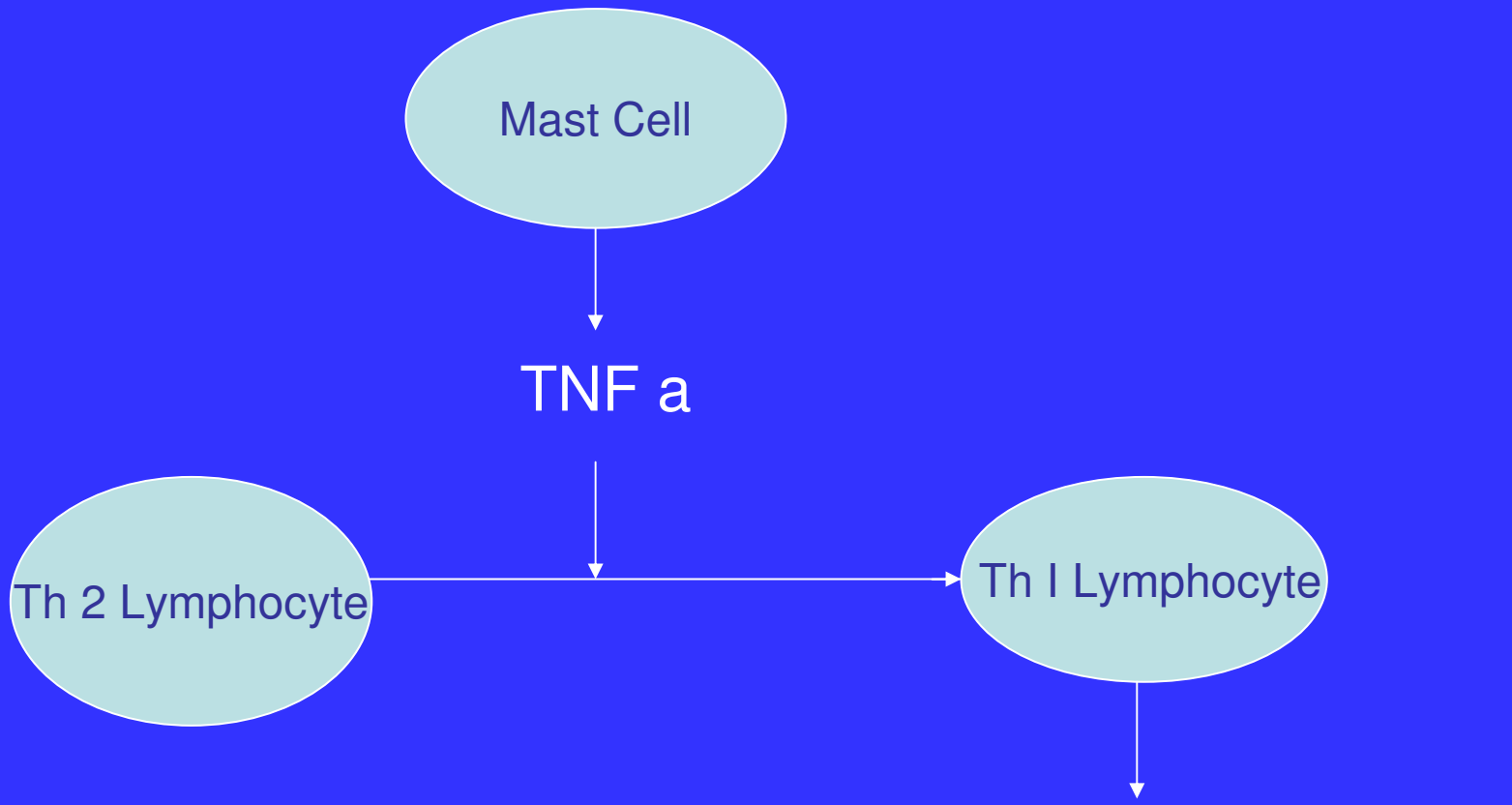
100mg bd

= Blackmores Evening Primrose Oil contains 100mg GLA per capsule

Thalidomide 100mg nocte

Silva SR. *Nephron* 1994; 67(3): 270-273

Inhibits the synthesis of TNFa


Mast Cell
TNF a
Th 2 Lymphocyte
Th I Lymphocyte
IL-2 = Itchy ++

Other oral medications

- Anti-Histamines – evidence does not support use.
- Ondansetron – conflicting results. Not recommended.
- Cimetidine – not recommended
- Naltrexone – conflicting results. Not recommended.

Murtagh FEM, Weisbord D . Symptom management in Renal Failure. In : Chambers EJ et al (eds). *Supportive Care for the Renal Patient*. 2nd ed. 2010. OUP. p. 120

Topical preparations

There are two Level 1 studies showing efficacy for Capsaicin cream in UP

Breneman DL et al. *J Am Acad Dermatol* (1992); 26: 91-94.Tarng D-C et al. *Nephron* (1996); 72: 617-622.

Capsaicin cream (0.025 %)

Side effect – transient “burning” feeling on the skin

Topical Calineurin Inhibitors

Tacrolimus/ Pimecrolimus ointment

- suppresses the Th1 Lymphocyte production of IL-2

Inconsistent efficacy results in trials

Yes	No
Kuypers (2004)	Duque (2005)

UV Therapy

UV Therapy

- Broadband UVB

Gilchrest BA et al. *Ann Int Med* (1979); 91: 17-21.

CONSTIPATION

Multifactorial

- Reduced mobility
- Reduced fluid intake
- Medication – oral Fe, PO4 binders, opioids
- Poor diet
- More common on CAPD

- General measures – high fibre diet, increased mobility

- Specific – combination of softener (eg. Coloxyl) and stimulant (eg. Senna)

ANOREXIA

Multifactorial

- Nausea
- Dry mouth
- Altered taste
- Delayed gastric emptying
- Depression
- Uraemia
- Inadequate dialysis
- Abdominal discomfort and swelling from CAPD

- Patients on Dialysis require 2 x protein of the non-dialysis patient.
- Chronic Protein Energy MaInutrition is common

Management

- Attempt to reverse the reversible causes
- Renal Dietician Review
- Megace 160mg bd

ANXIETY

Psychosocial support

BZ have a prolonged half-life

Lorazepam (Ativan) sublingually useful for panic attacks

DEPRESSION

Incidence – 5-22 % of patients

O'Donnell K, Chung Y. The diagnosis of major depression in end-stage renal disease. Psychother Psychsom (1997) 66:38-43.

Difficult to accurately diagnose with multiple neuro-vegetative symptoms already present with the ESRD –

Fatigue, anorexia, insomnia

Do you feel depressed ?

1. SSRIs that can be used without dose adjustment are :

   Citalopram, Fluoxetine, Sertraline

2. TCA

What is the experience of the Renal Supportive Care Clinic ?

Palliative Care Clinic

123 patients from March 2009 to July 2011

Clinic patients
March 2009 – July 2011

	NUMBERS	%
NOT for Dialysis	71	58
Dual diagnosis	10	8
Symptoms on Dialysis	35	28
Withdrawal discussion	7	6
TOTAL	123	100

The POS-S (Renal) Symptom Inventory

Ref No:

Date: __/__/__

Questionnaire POS-S (renal) — staff version

Below is a list of symptoms which the patient may or may not have experienced. Please record how these symptoms have affected the patient in the table below. Put a tick in the box to show how you think they have affected how they have been feeling **over the last week.**

	Not at all, no effect	**Slightly** — but not bothered to be rid of it	**Moderately** — limits some activity or concentration	**Severely** — activities or concentration markedly affected	**Overwhelmingly** — unable to think of anything else
Pain	❑	❑	❑	❑	❑
Shortness of breath	❑	❑	❑	❑	❑
Weakness or lack of energy	❑	❑	❑	❑	❑
Nausea (feeling like you are going to be sick)	❑	❑	❑	❑	❑
Vomiting (being sick)	❑	❑	❑	❑	❑
Poor appetite	❑	❑	❑	❑	❑
Constipation	❑	❑	❑	❑	❑
Mouth problems	❑	❑	❑	❑	❑
Drowsiness	❑	❑	❑	❑	❑
Poor mobility	❑	❑	❑	❑	❑
Itching	❑	❑	❑	❑	❑
Difficulty sleeping	❑	❑	❑	❑	❑
Restless legs or difficulty keeping legs still	❑	❑	❑	❑	❑
Feeling anxious	❑	❑	❑	❑	❑
Feeling depressed	❑	❑	❑	❑	❑
Changes in skin	❑	❑	❑	❑	❑
Diarrhoea	❑	❑	❑	❑	❑
Any other symptoms?	❑	❑	❑	❑	❑
.....	❑	❑	❑	❑	❑
.....	❑	❑	❑	❑	❑

Which symptom has affected the patient the most? .....

Which symptom, if any, has improved the most? .....

Clinic Mean Demographics at first visit (as at July 2011)

	Dialysis patients who visited the clinic	Conservative patients
Age 1st visit	73 yrs	81 yrs
BMI	29	27
Creatinine	625 umol/L	298 umol/L
eGFR (MDRD)	9	19
Haemoglobin	111 g/L	110 g/L
Albumin	30 g/L	34 g/L
Male	75%	59%

SYMPTOM PREVALENCE

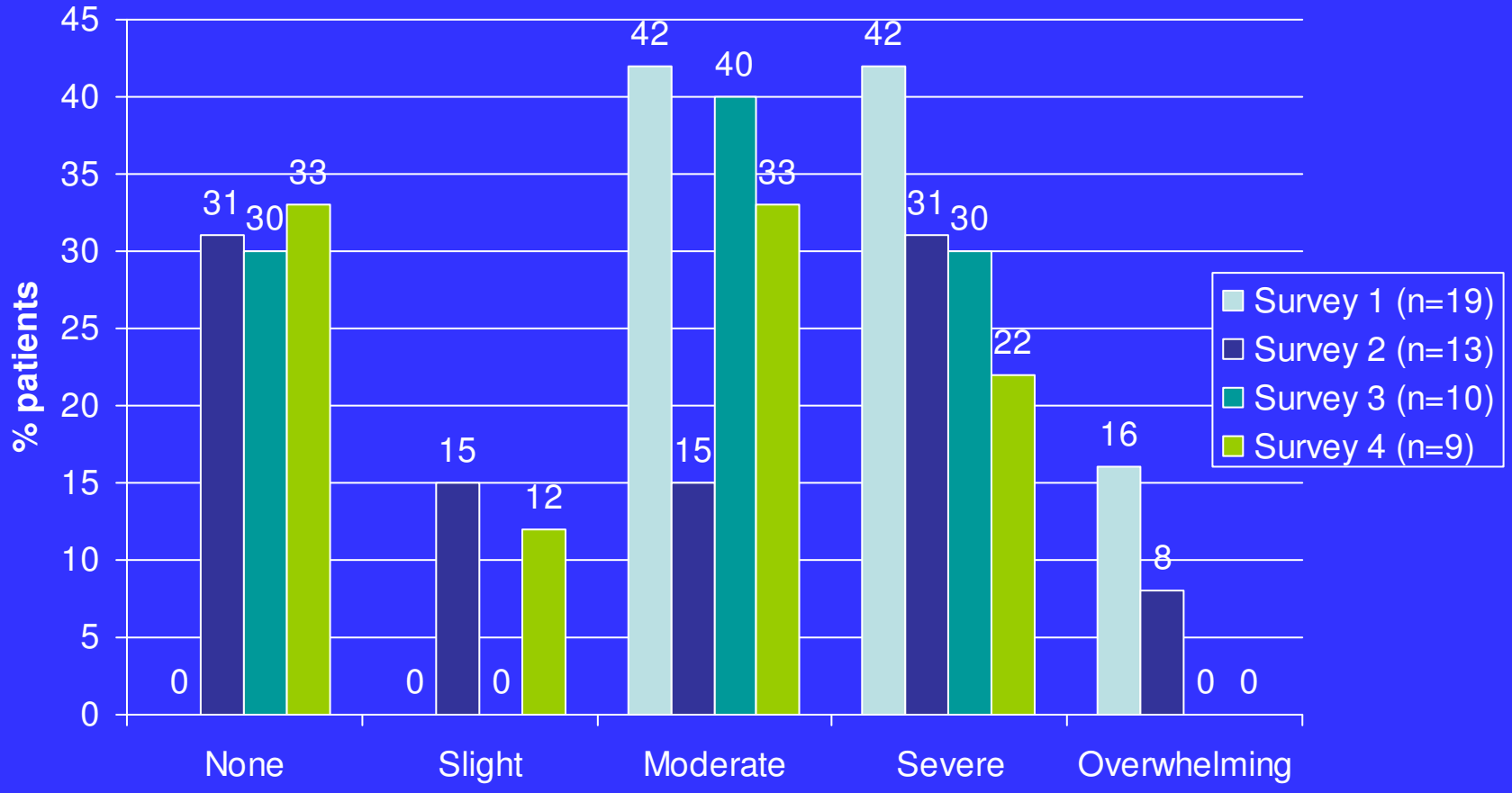
	Nil-Mild	Moderate	Severe - overwhelming
WEAKNESS	31 %	36 %	33 %
FATIGUE/ Tiredness	59 %	32 %	9 %
PRURITUS	54 %	24 %	22 %
POOR MOBILITY	46 %	28 %	26 %
PAIN	49 %	29 %	22 %
DEPRESSION	66%	21 %	13%
SLEEP DISTURBANCE	55%	14 %	31%

SYMPTOM PREVALENCE

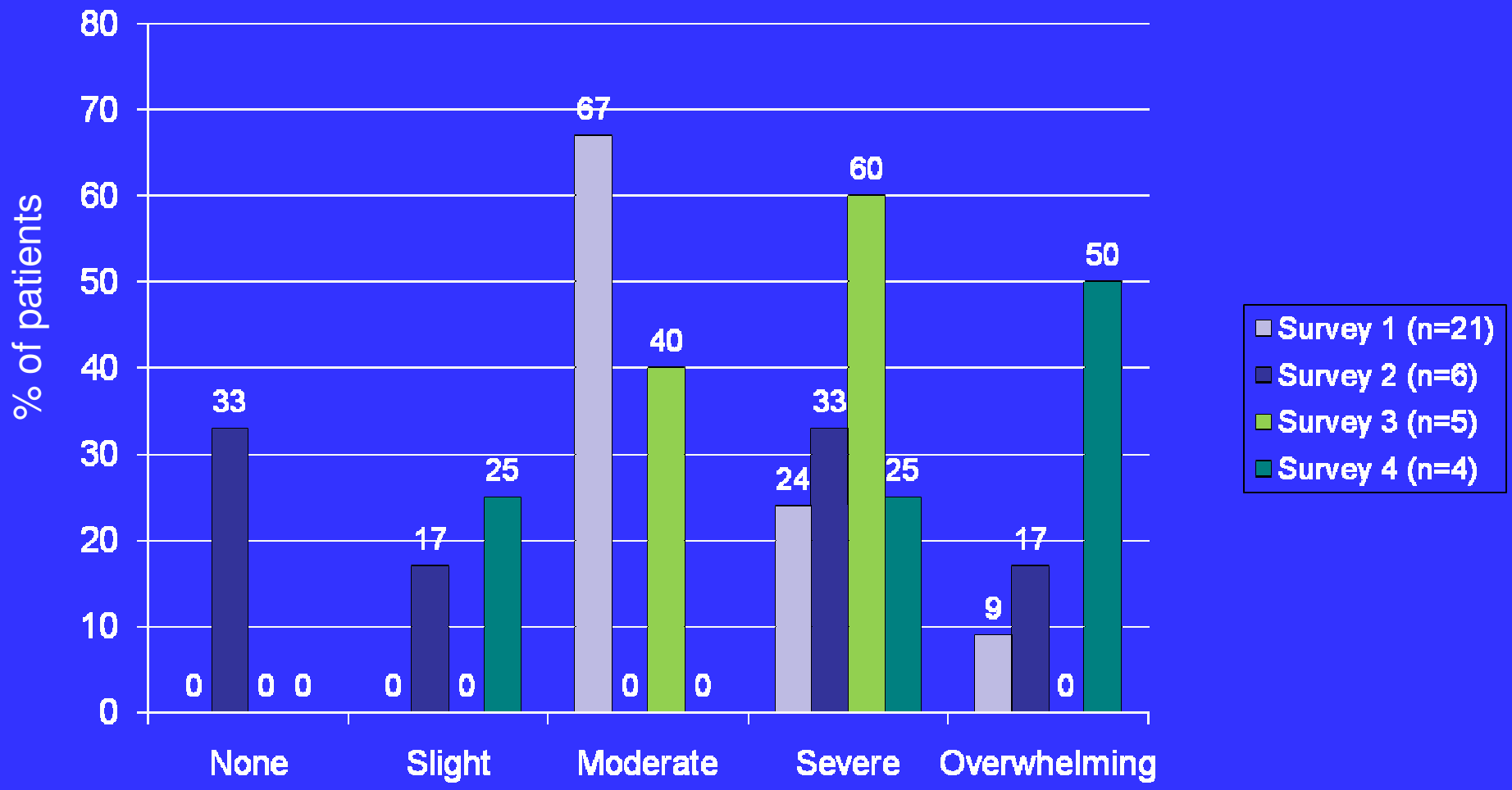
	Nil-Mild	Moderate	Severe - overwhelming
DYSPNEA	67%	17 %	16 %
ANOREXIA	64 %	22 %	14 %
RESTLESS LEGS SYNDROME	76 %	15 %	9 %
NAUSEA	79 %	11 %	10 %
VOMITING	93%	5 %	2%

Pain

Patients with Moderate to Overwhelming Pain on 1st survey (Non dialysis)

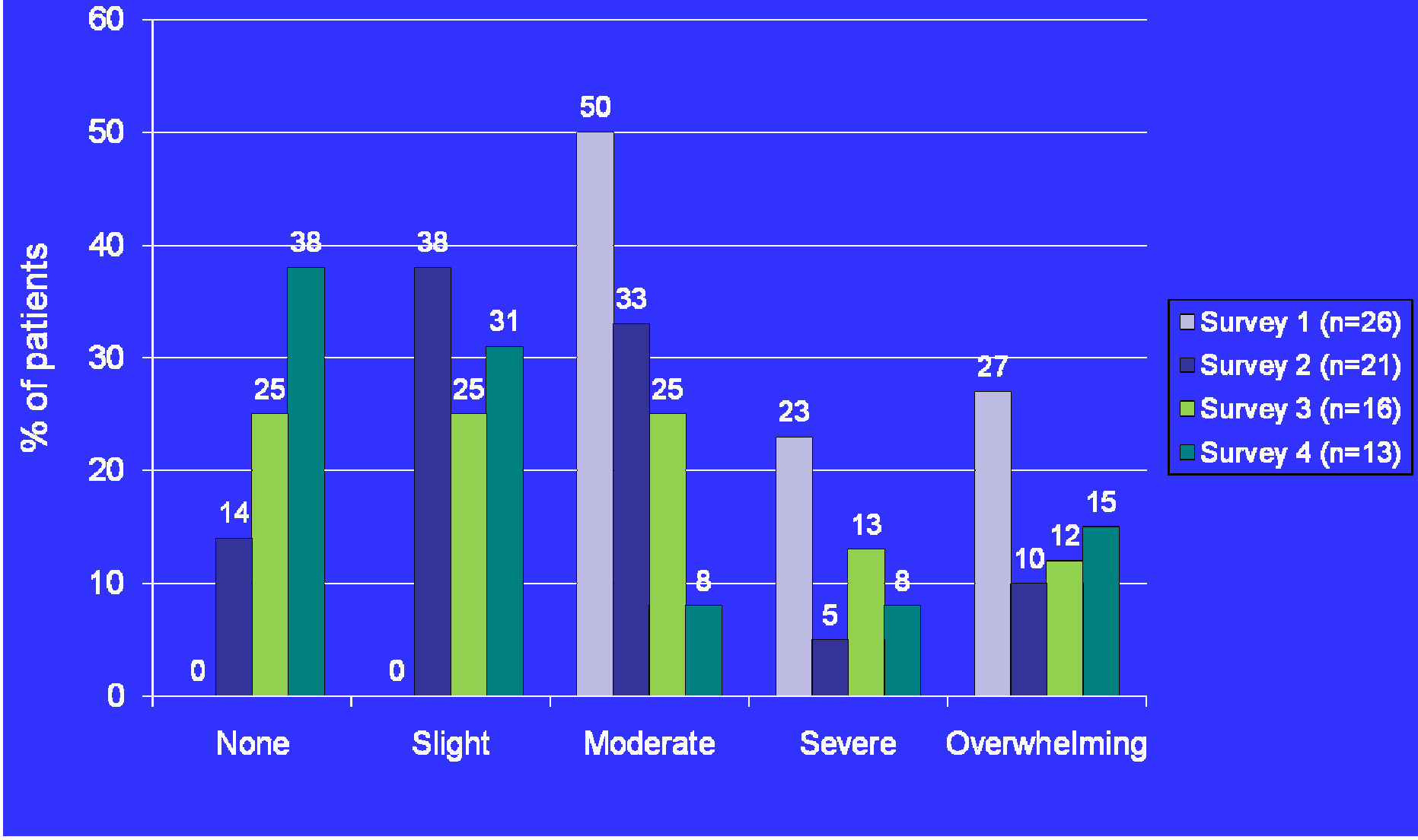


Patients with Moderate to Overwhelming Pain on 1st survey (Dialysis)

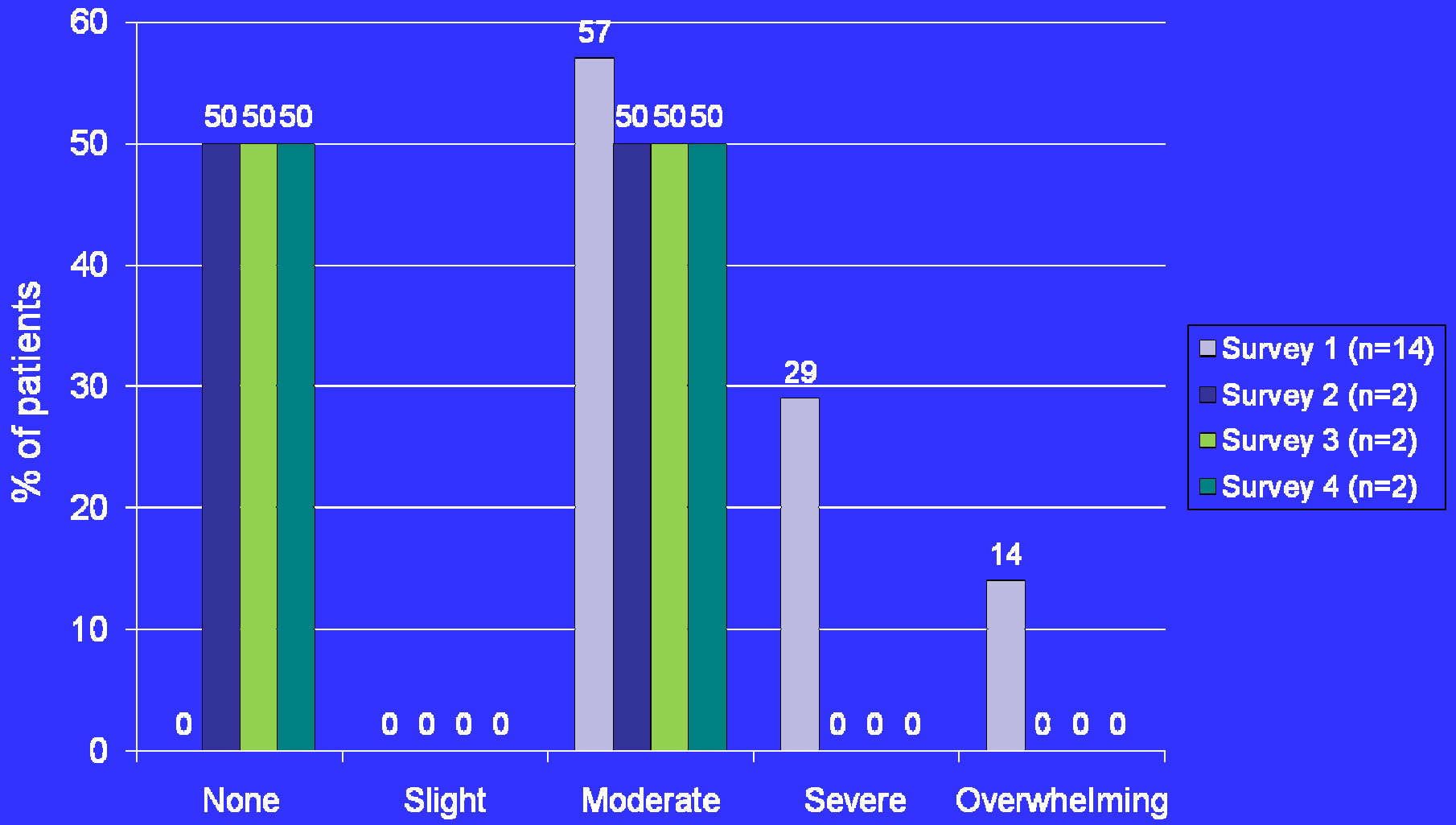


Uraemic Pruritus

Patients with Moderate to Overwhelming Pruritus on 1st survey (Non dialysis)

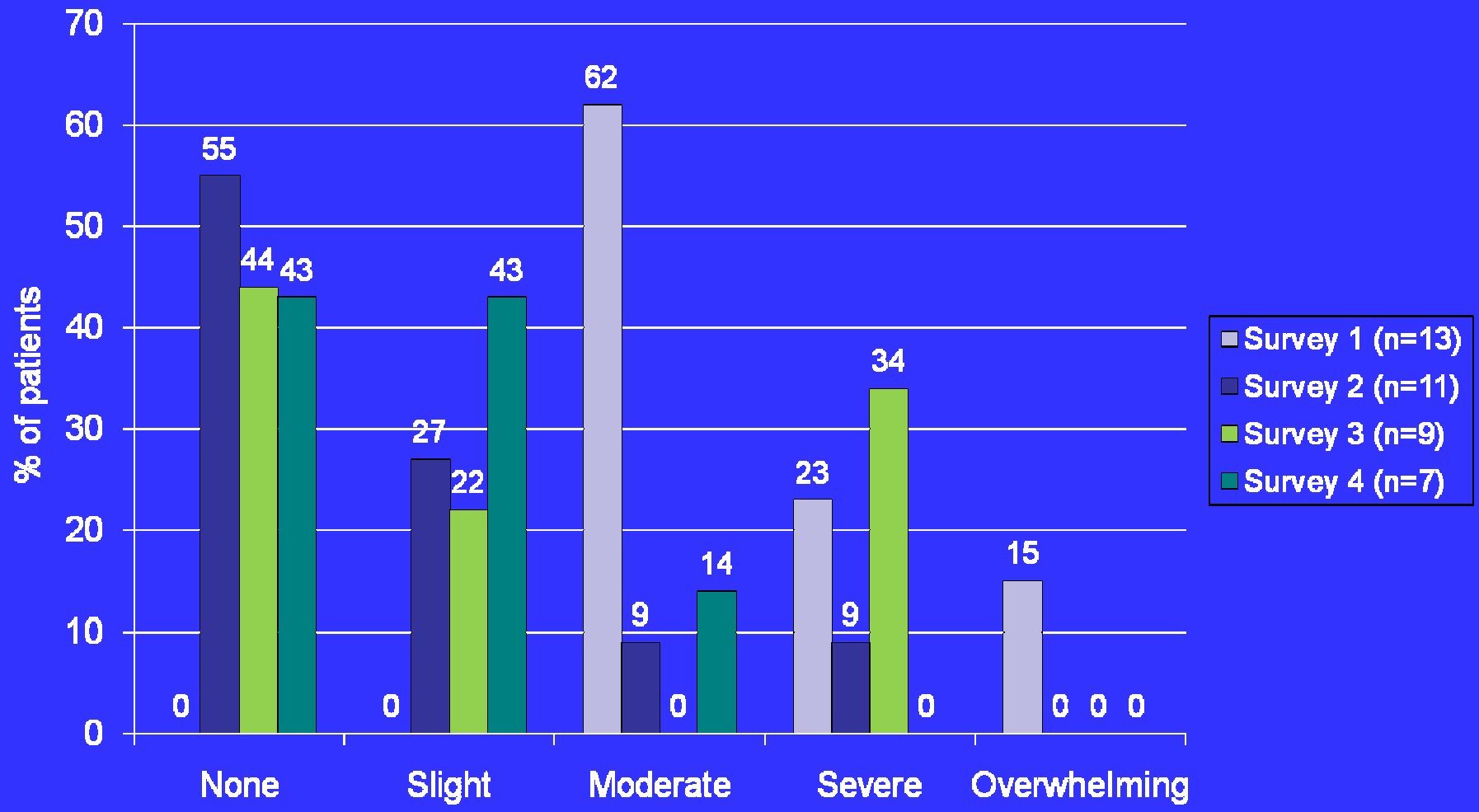


Patients with Moderate to Overwhelming Pruritus on 1st survey (Dialysis)

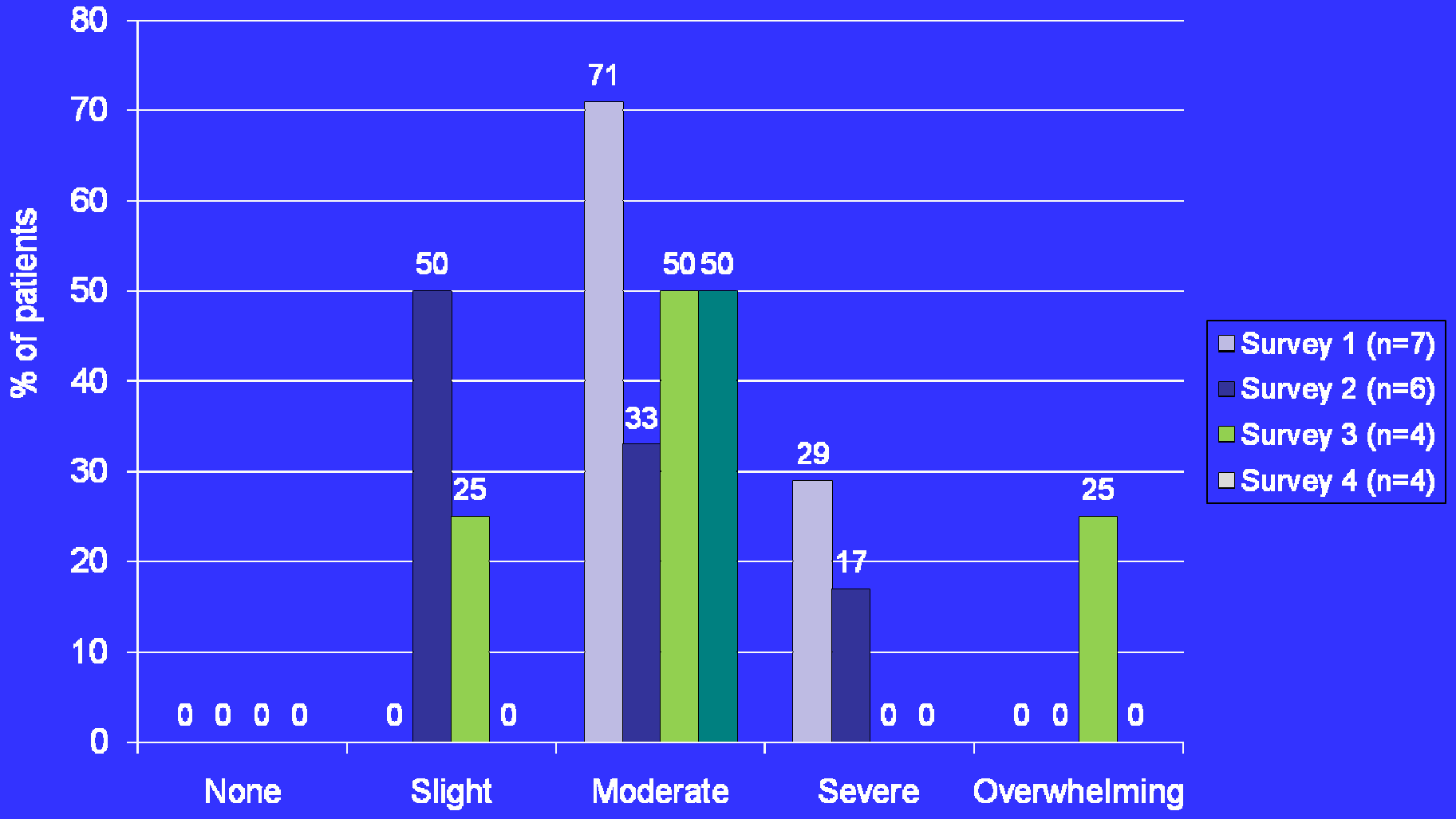


Restless Legs Syndrome

Patients with Moderate to Overwhelming RLS on 1st survey (Non dialysis)



Patients with Moderate to Overwhelming RLS on 1st survey (Dialysis)

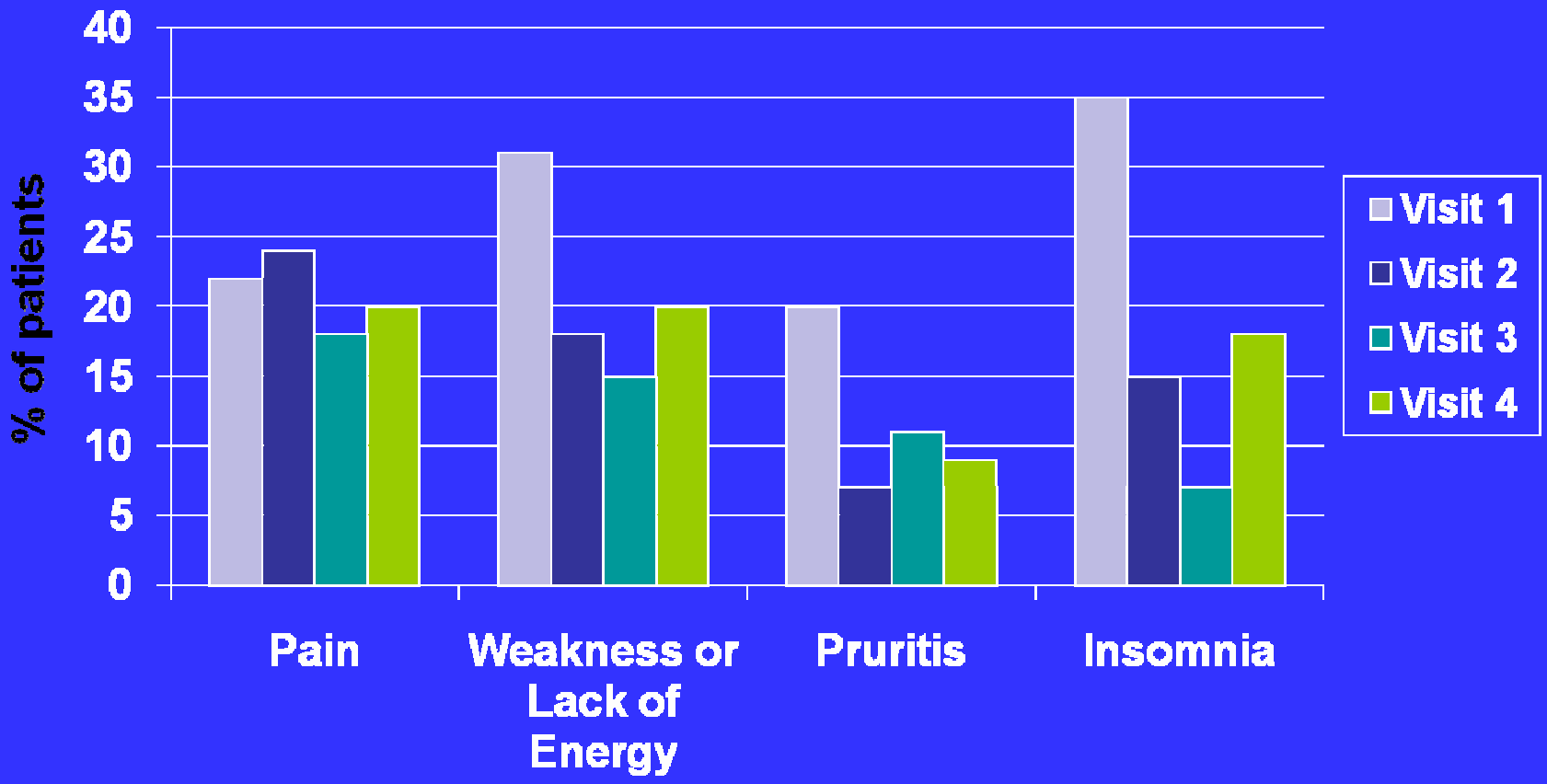


U.Pruritus

RLS → Insomnia

Pain

Percent of Severe to Overwhelming Symptoms (all patients) n=55



Conclusion

- Symptom management is an important arm of management.
- Symptoms are prevalent and multiple

- Be meticulous

- Symptom relief may have a significant impact of patients' Hr QOL