

# MANAGEMENT OF RECTAL TENESMUS

Dr. Áine Ní Laoire

Masterclass in Palliative Care 2019

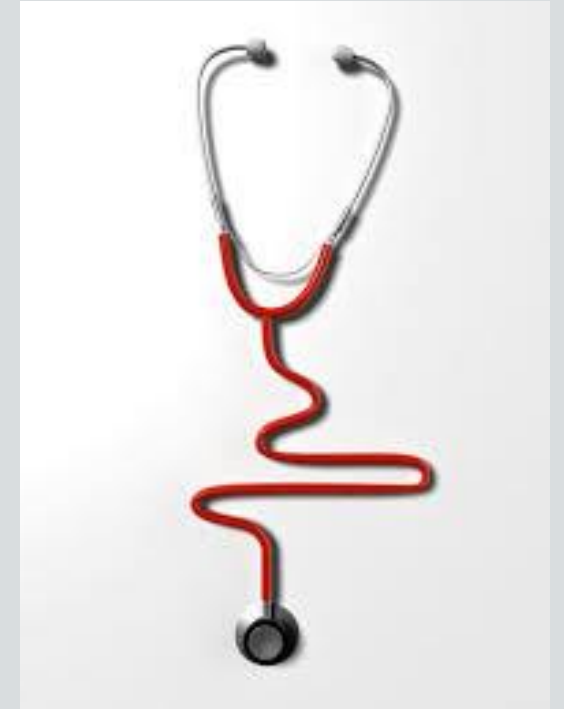
# PRESENTATION OUTLINE

- A Clinical Case
- Definition
- Epidemiology
- Pathophysiology
- Management - Systematic Review
- Clinical Application



## A CLINICAL CASE

- 54 yr old Nigerian male
  - Mod diff adenoca of anorectal junction
  - Involvement of anal squamous epithelium
  - CT staging - pulmonary metastases
  - T4N2M1



## TREATMENT

- 45Gy/15# RT to pelvis
- Palliative chemo (5 cycles FOLFOX)
- Restaging - Progressive lung mets, stable pelvic disease
- Not for further chemotherapy

## “MY LIFE REVOLVES AROUND PAIN”

- Rectal pain - since dx but escalating
  - Constant background pain: “like a pin bursting a sore”
  - Incident pain with bowel motions: “like a chilli burning the skin”
  - Tenesmus: every time he stood, lying flat 24/7 apart from toileting

## ANALGESIC REGIMEN ON ADMISSION

- Oxycotin 200mg BD
- Oxynorm 60mg PRN
- Amitriptyline 50mg nocte
- Gabapentin 600mg TDS

HOW WOULD YOU MANAGE HIS PAIN?



## TENESMUS - DEFINITION



- Painful sensation of incomplete evacuation of the bowel
- From Greek *teinein* to strain, stretch
- Sensation of needing to defecate many times daily



## EPIDEMIOLOGY

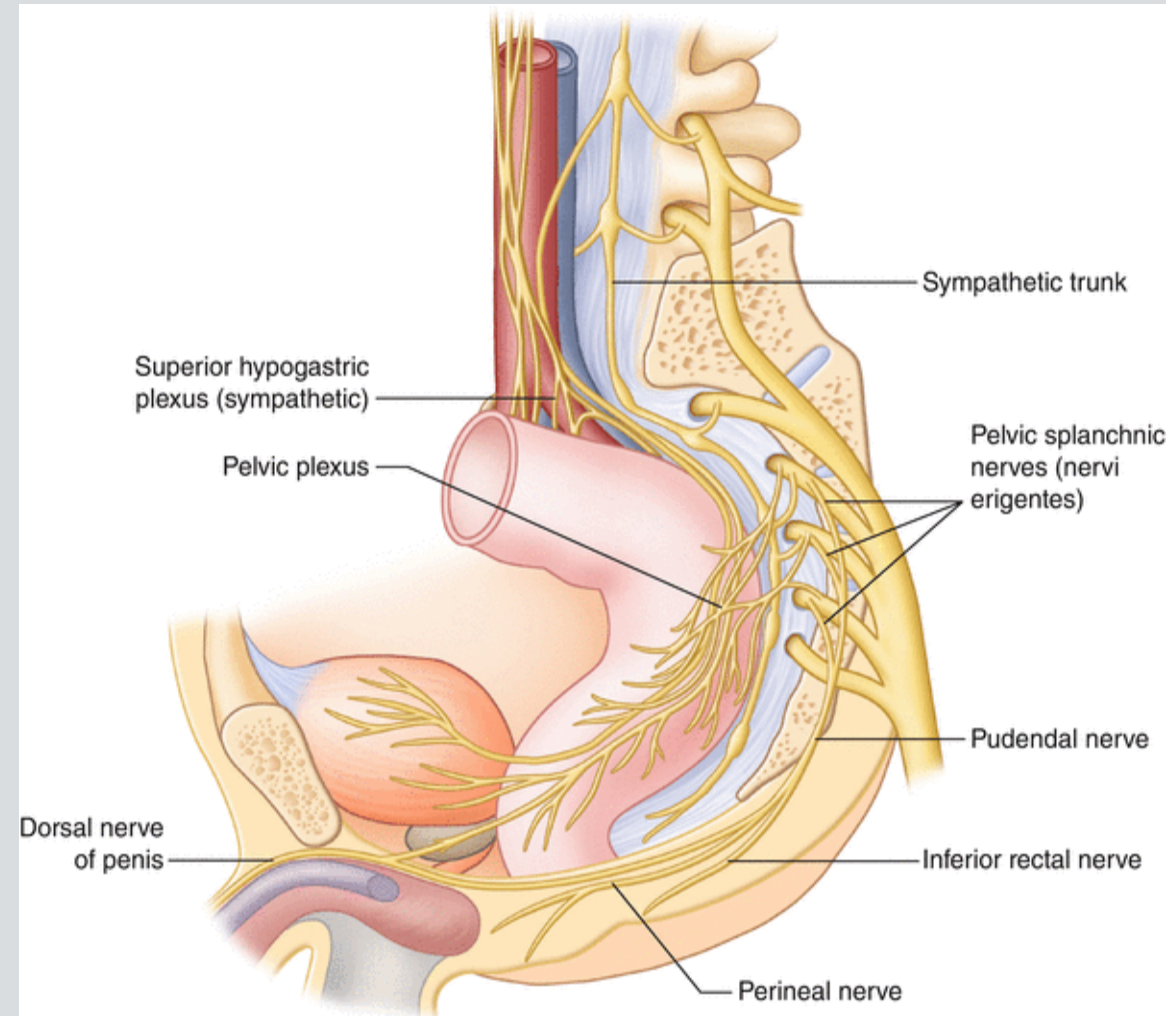
- Rectal carcinoma - most common malignancy causing tenesmus
- Non-malignant causes include IBD, faecal impaction, radiation proctitis
- Prevalence in cancer population unknown - 14% with recurrent rectal carcinoma (Rao 1978) – likely lower prevalence now

## WHY IS IT IMPORTANT?

- Distressing symptom
- Long been described as a “difficult pain problem” (BMJ 1997)
- Severely affects QOL (Esnaola 2002)
- BUT seldom evaluated in symptom assessment tools (Mercadante 2013)

# NERVE SUPPLY TO THE ANORECTUM

- **Somatic & Autonomic Innervation**
- Somatic - Pudendal nerve
- Autonomic
  - Lumbar & pelvic splanchnic nerves
  - Sup./Inf. hypogastric plexuses



## PATHOPHYSIOLOGY - NOT FULLY UNDERSTOOD

1. Tumour invasion of lumbosacral plexus: **neuropathic pain**
2. Tumour inflammation (through somatic afferents): **nociceptive pain**
3. Smooth muscle stretching (through autonomic afferents): **smooth muscle spasm**

# TENESMOID PAIN

**Smooth muscle contraction**

**+**

**Nociceptive pain**

**+**

**Neuropathic pain**

\*BUT not fully understood

# TREATMENT OF MALIGNANCY RELATED TENESMUS

- Definitive treatment targets malignancy - Surgery, Chemo, RT
- Lack of consensus on appropriate palliative management
- Largely unresponsive to opioids (Hanks 1991)
- Benzodiazepines & phenothiazines - unclear rationale

## PALLIATION OF TENESMUS

How do we manage this pain?!



YOUR DRUG OF CHOICE....

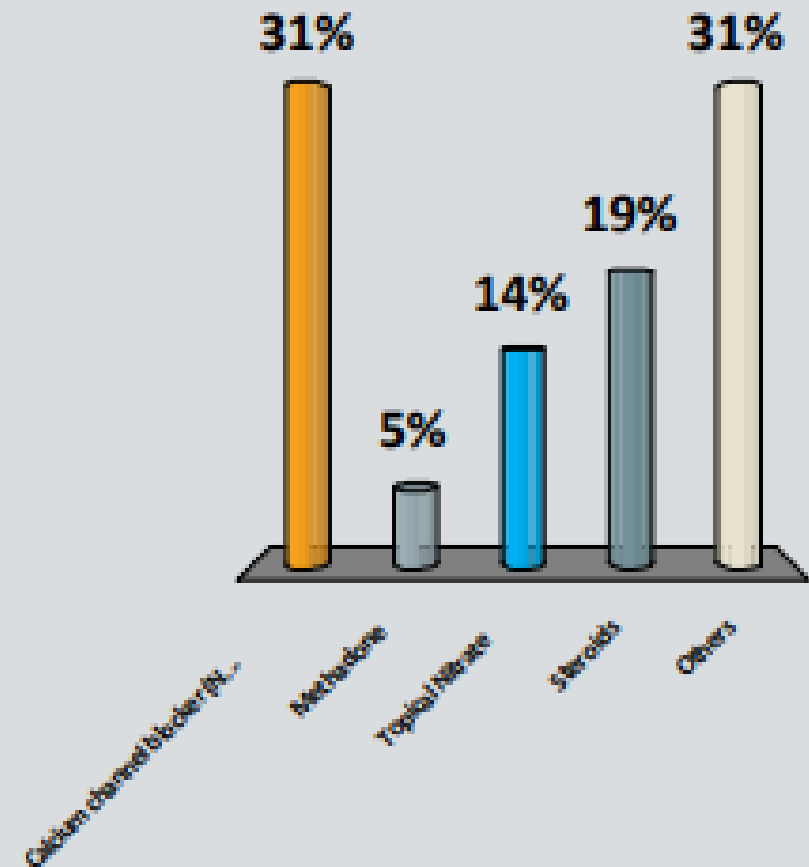
What is your  
drug of choice to  
treat tenesmus?!





# WHAT DO YOU USE TO TREAT TENESMUS?

- A. Calcium channel blocker (Nifedepine / Diltiazem)
- B. Methadone
- C. Topical Nitrate
- D. Steroids
- E. Others



# **A systematic review of the effectiveness of palliative interventions to treat rectal tenesmus in cancer**

**Áine Ní Laoire<sup>1</sup>, Lucy Fettes<sup>2</sup> and Fliss EM Murtagh<sup>2</sup>**

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## AIM

To examine the effectiveness of interventions to palliate rectal tenesmus in cancer patients

## METHOD

Systematic review - in accordance with PRISMA guideline

## INCLUSION CRITERIA

- Rectal tenesmus caused by any malignancy
- Any palliative intervention; disease modifying treatment excluded
- Outcome measures specifically relating to severity of tenesmus

## RESULTS

- From 861 studies, 9 met full criteria & were selected
- ALL CASE SERIES!

## TYPES OF INTERVENTIONS

- Pharmacological
- Anaesthetic
- Endoscopic laser

## PHARMACOLOGICAL INTERVENTIONS

- Diltiazem
- Nifedipine
- Methadone
- Bupivacaine
- Mexiletine hydrochloride

## DILTIAZEM, STOWERS 2004

- Calcium channel blocker - inhibitor of smooth muscle contraction
- N=2
- 30mg orally QDS - after 48 to 72 hrs 120mg OD
- Pt 1: Pain reduction to 1-4/10, 24h OME from 170mg to 20mg (72h)
- Pt 2: “Significant improvement”, 24h OME from 3500mg to 450mg (72h)
- No adverse effects



## NIFEDIPINE, MCLOUGHIN 1997

- Calcium channel blocker - inhibitor of smooth muscle contraction
- N=4
- 10 to 20mg orally BD
- 3 reported improvement in tenesmus & defecation frequency
- No adverse effects

## METHADONE, SÁNCHEZ POSADA 2004

- NMDA receptor antagonist – targets neuropathic pain
- N=4
- 2.5mg orally every 8 hrs & titrated (max 12.5mg/day)
- 100% pain free until death/end of study period
- Mild drowsiness in 2 pts

## BUPIVACAINE, ZAPOROWSKA-STACHOWIAK 2014

- Long-acting local anaesthetic – Na blockade
- N=2
- Intrathecal bupivacaine (Pt 1), Rectal bupivacaine (Pt 2)
- Pt 1: Reduction to 0-1/10 at rest, 2-3/10 on movement
- Pt 2: Reduction to 0/10 at rest & 1-2/10 on movement
- Transient hypotension post intrathecal administration

## MEXILETINE HYDROCHLORIDE, YOSHINO 2012

- Local anaesthetic/antiarrhythmic – Na blockade
- N=5
- 150mg in 3 divided doses orally
- Resolution in 100% in 1-2 days & reduction in desire to defecate
- No adverse effects

# ANAESTHETIC INTERVENTIONS

- Lumbar sympathectomy
- Neurolytic superior hypogastric plexus block



## LUMBAR SYMPATHECTOMY, BRISTOW 1988

- Neurolytic agent injected into the lumbar part of sympathetic chain
- N=12
- Single needle technique (5 to 12 ml of 6% phenol in water injected)
- 83% complete relief
- Temporary hypotension in 1 patient

## SUPERIOR HYPOGASTRIC PLEXUS BLOCK, TUCKER 2005

- Posteromedian transdiscal approach using 8mls of 10% phenol
- N=3
- Pt 1: pain reduction from 9/10 to 2/10
- Pt 2: “disappearance” of tenesmus post intervention
- Pt 3: pain reduction from 9/10 to 2/10
- No adverse effects

## ENDOSCOPIC LASER INTERVENTIONS

- Gevers et al. 2000, N=26
- 80.8% complete resolution
- serious complications - 5 deaths “possibly” complication-related
  
- Bown et al. 1986, N=8
- 4 patients complete relief, 3 patients partial relief
- Blood/mucus per rectum & discomfort after treatment, settled within days



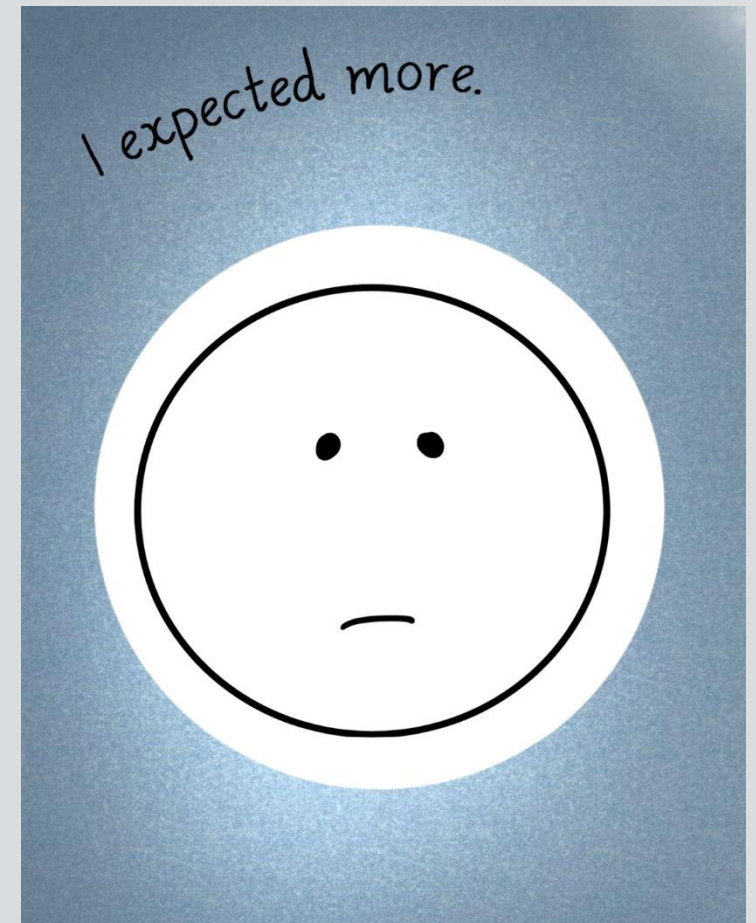
# QUALITY ASSESSMENT

**Table 2.** Quality check list of included studies.

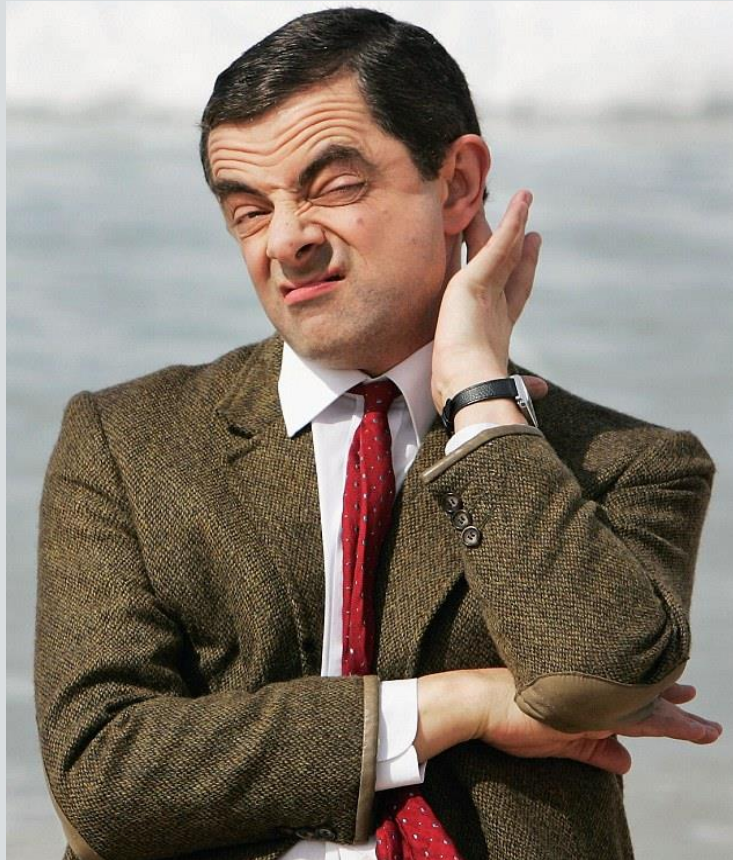
	Stowers et al. <sup>13</sup>	McLoughlin and McQuillan <sup>14</sup>	Sánchez Posada et al. <sup>15</sup>	Yoshino et al. <sup>16</sup>	Zaporowska-Stachowiak et al. <sup>17</sup>	Bristow and Foster <sup>18</sup>	Turker et al. <sup>19</sup>	Gevers et al. <sup>20</sup>	Bown et al. <sup>12</sup>
Case series collected in more than one centre, that is, multi-centre study	No	No	No	No	No	No	No	No	No
Is hypothesis/aim/objective of study clearly described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Are the inclusion and exclusion criteria (case definition) clearly reported?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a clear definition of outcomes reported?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were data collected prospectively?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Is there an explicit statement that patients were recruited consecutively?	No	No	No	No	No	No	No	No	No
Are the main findings of the study clearly described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Are outcomes stratified?	No	No	No	No	No	No	No	No	No
Total score	5/8	5/8	5/8	5/8	5/8	5/8	5/8	4/8	4/8

# CONCLUSION OF SYSTEMATIC REVIEW

- Weak evidence based on case series
- Diverse treatments
- ?Multimodal approach necessary due to complexity of pathophysiology



## OTHER MANAGEMENT OPTIONS?



## USED IN PRACTICE - EVIDENCE BASED?

- Botulinum injections (case report, Hawley 2002)
- Topical nitrate (evidence in anal fissures, Novell 2004)
- Steroids (reduces peritumour oedema, no specific tenesmus study)
- Tricyclic antidepressants (evidence in rectal prolapse, Livovsky 2015)
- Anaesthetic interventions - ?pudendal nerve block, ?ganglion impar block

## SINCE MY SYSTEMATIC REVIEW

- A new publication - Liu et al, Palliative Medicine 2018
- Case report - Superior hypogastric plexus block (neurolytic block)
- 55 yo F with met breast ca – severe refractory tenesmus secondary to metastases in the rectum
- Severity of tenesmus 8/10 pre & 0/10 post x 3/12

## DON'T FORGET THE BASICS!

- Faecal impaction will exacerbate tenesmus
- Cautious use of opioids + anticholinergics
- Stool softener – N.B.





# AN ORPHAN SYMPTOM!



## AN ORPHAN SYMPTOM

- Only 9 case series - 6 greater than 10 yrs old
- Significant gap in research field
- Orphan symptoms (Mercadante 2013) -  
is tenesmus the only remaining orphan?!



## APPLYING THIS EVIDENCE TO PRACTICE

- Challenging!!
- Insufficient evidence to recommend one treatment over another
- BUT....
- Consider approach based on pathophysiology & evidence from case series

## A MULTIMODAL APPROACH

**Inhibitor of smooth muscle contraction**

**+**

**Neuropathic agent**

**+**

**Anaesthetic intervention**

- ? Methadone rotation

**BACK TO OUR CASE STUDY!**

## HOW WE TREATED HIS TENESMUS!

Methadone rotation

Nifedipine

B/L Pudendal nerve block

Continuation of Gabapentin & Amitriptyline



## ANALGESIC REGIMEN ON DISCHARGE

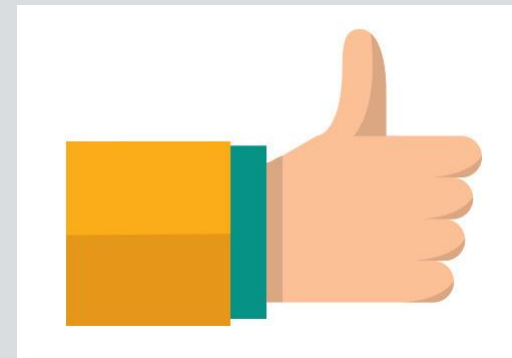
Methadone 22mg BD

Nifedipine 10mg BD

Amitriptyline 25mg Nocte

Gabapentin 600mg TDS

Pain controlled on discharge home



THANK YOU - QUESTIONS?

