MANAGEMENT OF RECTAL TENESMUS

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PRESENTATION OUTLINE

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

TENESMUS - DEFINITION

➢ Painful sensation of incomplete evacuation of the bowel
➢ From Greek teinein to strain, stretch
➢ Sensation of needing to defecate many times daily
TO BEGIN....

What is your drug of choice to treat tenesmus?!

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

WHAT DO YOU USE TO TREAT TENESMUS?

A. Calcium channel blocker (Nifedepine / Diltiazem) 31%
B. Methadone 14%
C. Topical Nitrate 19%
D. Steroids 5%
E. Others 31%

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# 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

• Oxycontin 200mg BD
• Oxynorm 60mg PRN: taking ~ 6/24hrs
• Amitriptyline 50mg nocte
• Gabapentin 700mg TDS
HOW WOULD YOU MANAGE HIS PAIN?

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)

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)
HOW MANY PATIENTS WITH TENESMUS HAVE YOU SEEN IN LAST 12 MONTHS?

A. 0
B. 1 – 5
C. 6 – 10
D. >10

NERVE SUPPLY TO THE ANORECTUM

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

PATHOPHYSIOLOGY

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?!
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 anesthetic – 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

MEXEILITE 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

- Gowers 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
CONCLUSION OF SYSTEMATIC REVIEW

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

OTHER MANAGEMENT OPTIONS?

- EVIDENCE BASED?

• Botulinum injections (case report, Hawley 2002)
• Topical nitrates (evidence in anal fissures, Novell 2004)
• Steroids (reduces peritumour oedema, no specific tenesmus study)
• Tricyclic antidepressants (evidence in rectal prolapse, Livovsky 2015)
• Pudendal nerve block (no specific tenesmus study)
DON’T FORGET THE BASICS!

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

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

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 900mg TDS

Pain controlled on discharge home

THANK YOU - QUESTIONS!