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PUDENDAL NEURALGIA

Barriers to diagnosis and practice

Outline

- Existing definitions of Pudendal Neuralgia
- Anatomy
- Clinical Presentation
- Diagnosis Criteria
- Evidence Based Medicine and Physiotherapy
- Psychological considerations
- Case Study
  - Issues faced re: recognition of Pudendal Neuralgia

What is Pudendal Neuralgia?

- Neuropathic pain
- Distribution of the Pudendal nerve
- Urinary, rectal and sexual dysfunction
- No pathology or infection
- Neuralgia – “severe, sharp pain along the course of a nerve” (Benson & Griffis, 2005)
- Associated names
  - Pudendal nerve entrapment
  - Pudendal pain syndrome (Fall, et al., 2010)
- Syndrome V’s Diagnosis (Stav, Dwyer & Roberts, 2009)

Potential causes

- Nerve entrapment/compression (Robert et al., 2005; Stav, Dwyer & Roberts, 2009)
  - Between sacrotuberous & sacrospinous ligaments
  - Alcock's canal
    - Falciform process of sacrotuberous ligament/obturator internus fascia thickening
  - Nerve responds via inflammation or becoming scarred and thickened
- Repetitive micro-trauma E.g. cycling
- Mechanical stretching I.e. chronic constipation

Potential Causes cont'd…

- Damage during vaginal delivery (Diao, Andrews & Diao, 2004, cited in Sajadi, Gill & Damaser, 2010)
  - Decreased perfusion at 8% stretch
  - Complete ischaemia at 15% stretch
- Infectious damage to the nerve by Herpes Simplex (Stav, Dwyer & Roberts, 2009)
- Hypothesis: hypertrophy of PFM's can result in elongation and remodeling of the ischial spine (Antolak, Hough, Pawlina, & Spinner, 2001)

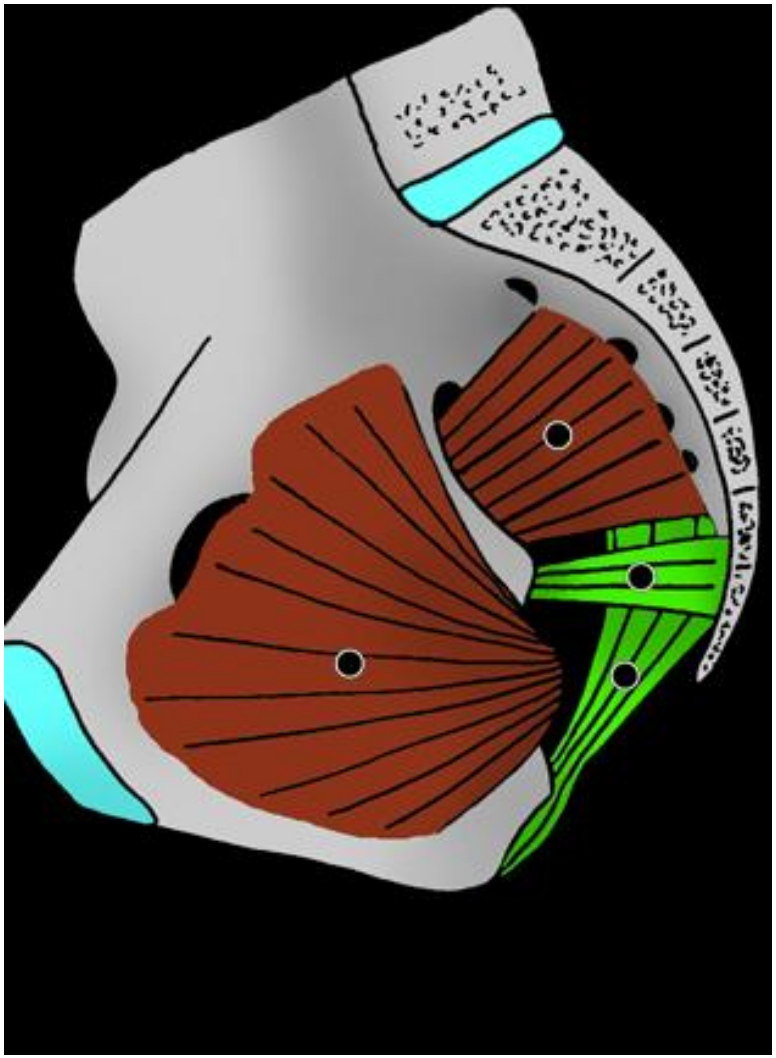
Anatomy

(Gajraj, 2005; R Robert et al., 1997; Uz, Apan, Erbil, & Tekdemir, 2005)

- Ventral aspect of 2nd, 3rd and 4th ventral sacral rami
- Lies medially and caudally to sciatic nerve
- Greater sciatic foramen
  - Between Piriformis and Coccygeus
- Enters gluteal region
- Courses between the sacrotuberous and sacrospinous ligaments near the ischial spine
- Re-enters pelvis through lesser sciatic notch and Alcock's canal -
  - OI fascia and lateral wall of ischio-anal fossa

Anatomy

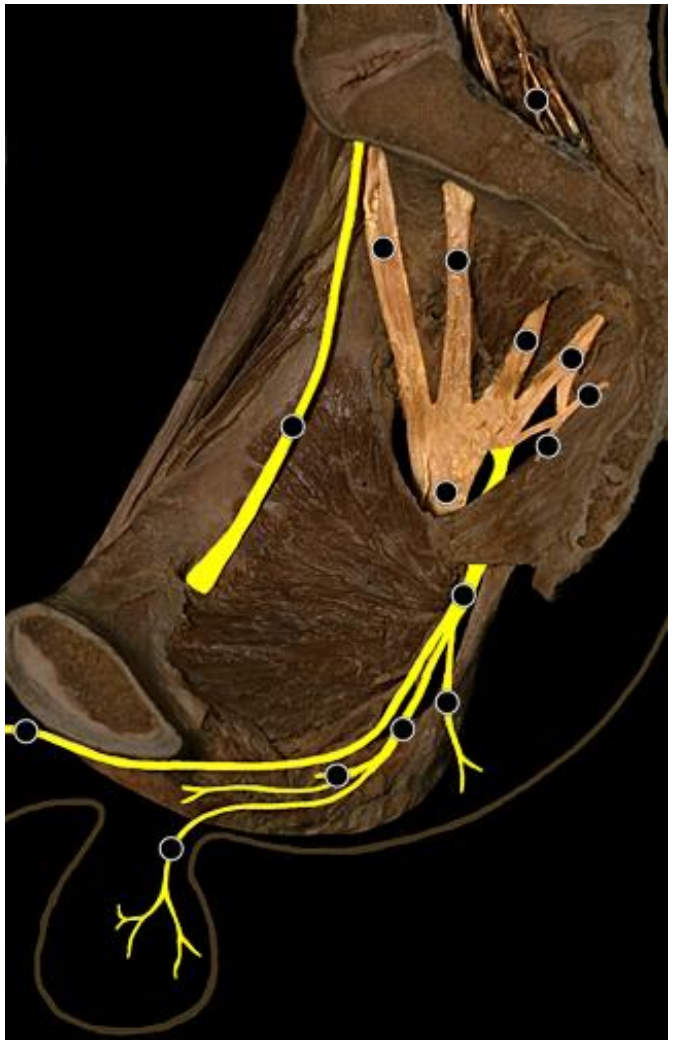
(Anatomedia, 2010)



Anatomy cont'd…

- With Alcock canal, nerve gives off:
  - Inferior rectal nerve
    - Perineal nerve – Deep motor and 2 superficial sensory branches
    - Dorsal nerve of the penis/clitoris
- Depth and location (Uz, et al., 2005)
  - Ischial tuberosity – coccyx 8.62cm +/- 0.92cm
  - Ischial tuberosity – Ischial spine 5.23cm +/- .33cm
  - Ischial spine – coccyx 5.42cm +/- 0.52cm
  - Nerve depth – 4.14cm +/- 0.83cm

Anatomy



Nerve Features

(Uz, et al., 2005)

- Conveys sensory, motor and sympathetic fibres to the perineum
- Innervates:
  - Transversus Pernei Superficialis & Profundus
  - Bulbospongiosus
  - Ischiocavernosus
  - Sphincter Urethra
  - Anterior aspects of:
    - External Sphincter
    - Levator Ani

Clinical Presentation

- Alternative diagnoses:
  - Prostate pain syndrome/Prostatitis/Prostatodynia
  - Testicular pain syndrome
  - Anorectal pain syndrome
  - Perineal pain syndrome
  - Vulvodynia
  - Chronic Pelvic Pain
  - Levator Ani syndrome
  - History of surgery common

(Fall, et al., 2010; Markwell, 2001; Robert et al., 2005)

Symptoms

- Numbness, burning, allodynia
- Aggravated by sitting/Relieved by standing
- Aggravated by prolonged hip flexion activities
  - Climbing, squatting, cycling
- Voiding and sexual dysfunction/pain
- No nocturnal perineal pain
- Generally unilateral
- Associated muscular pain – trigger points

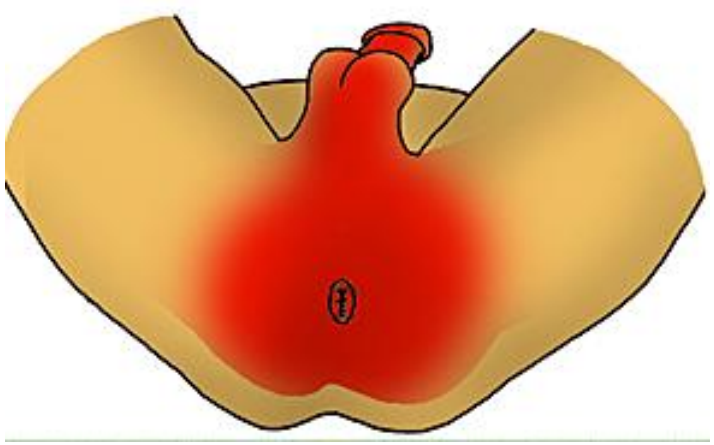
(Antolak, et al., 2001; Fall, et al., 2010; Labat, et al., 2008; Markwell, 2001;Rhame, Levey & Gharino, 2009; Robert, et al., 2005; Stav, Dwyer & Roberts, 2009)

Symptoms cont'd…

- Normal imaging
- Pain unresponsive to usual analgesics
- Normal neurological examination
- Pain on rectal palpation of ischial spine
- Poor sacro-pelvic stability
- PFM hypertonicity
- ICS definition
  - Females – Perineal pain is felt between the posterior forchette and the anus
  - Males – Between the scrotum and the anus

Symptoms cont'd…

- Retrospective study of 64 patients (Benson & Griffis, 2005)
- Pain along nerve distribution – 100%
- Pain aggravated by sitting – 97%
- Pain relieved by standing/lying – 89%
- Previous misdiagnosis – 83%
- Demyelination – 26%



Diagnostic Criteria

(Labat et al., 2008; Stav, Dwyer & Roberts, 2009)

- 5 suggested diagnostic criteria
  - Pain along the anatomical distribution of the PN
  - Pain aggravated by sitting
  - Patient not awakened at night by pain
  - No objective sensory loss
  - Pain improved by an anaesthetic PN block
- Exclusion – coccygeal/gluteal pain; presence of imaging abnormality; dermatological lesion

Evidence Based Medicine

- Pudendal Nerve block (Antolak & Antolak, 2009; Uz, et al., 2005)
  - Evaluative
  - Analgesic
  - Transvaginal/Transrectal technique
    - Palpation of sacrospinous ligament
    - Administered at level of ischial spine and Alcock's canal
  - 2-3 blocks over 3-6 months
  - 90% improvement in symptoms 12-26 months

EBM cont'd…

- Sacral Neuromodulation (Fall, et al., 2010)
  - Blocks pain transmission in the spinothalamic tract
  - Activates descending inhibitory pathways
  - Effects central sympathetic systems
  - Provides segmental inhibition
  - Masks nociceptive output
- Pharmacologic treatment
  - Gabapentin, Endone, Tricyclic antidepressants

EBM cont'd…

- Botox (Gajraj, 2005)
  - Case report
  - Botulinum Toxin injection to OI to address chronic perineal pain - OI considered a pain generator
  - 64 year old female
    - Right sided upper leg, vaginal and rectum pain
    - Aggravated by sitting
    - Numerous prior diagnosis
    - Prior treatment failed
    - Bupivicaine 5ml 0.25% gave 90% relief for 12 hours
    - 2nd injection, 3ml 0.25%

EBM cont'd…

- Botox cont'd…
  - Pain reduced from 7/10 to 1/10
  - 90% maintenance of relief 3 months after 2nd injection
  - Mechanism
    - Inhibits acetylcholine and pain neurotransmitters such as Substance P, Glutamate and Histamine
    - Decreases local sensitisation
    - Diminishes activity in gamma motor neurons
  - Complications: Incontinence

EBM cont'd…

- Surgery (Robert et al., 2005)
  - Non-blinded RCT comparing de-compressive surgery with non-surgical treatment
  - Control group
    - Previous positive temporary response to PN blocks at ischial spine/at Alcock's canal
    - Physiotherapy
  - Surgery group
    - As above
    - Trans-gluteal approach
    - Pudendal neurovascular bundle released by incision of offending tissue

EBM cont'd…

- Surgery cont'd…
  - Results
    - Significant improvement at 3 months and 12 months compared with control group
    - Improvement maintained 4 years later in 50% of surgical participants
  - Are further medical interventions required?
  - Other studies assessing surgery
    - Shafik (1998)

Physiotherapy

- Little evidence
- Paper by Markwell (2001)
- Physiotherapy aims
  - Alter/facilitate motor and cognitive learning
  - Restore pelvic floor muscle coordination and symmetry
  - Assist in central processing changes

Physiotherapy cont'd…

(Markwell, 2001)

- Suggested interventions
  - Defecation training
    - Relaxation
    - Voiding postures
    - Constipation management
  - PFM training
    - Relaxation/motor learning
    - Stretches
  - Re-training of sacro-pelvic deep stabilisers

Physiotherapy cont'd…

- Anecdotal
  - Trigger point therapy internal and external
  - Postural management
    - Unilateral hip flexion/ER
    - Contra-lateral hip extension
    - +/- iliac compression/gluteal distraction
    - Sitting postures
  - Sexual retraining
    - Pacing
    - Dilators
    - Arousal

Manual Therapy/Chiropractic

- Case based study (Durante & MacIntyre, 2010)
  - 41 year old ironman
  - History long distance cycling
  - Constant penis pain/pain after intercourse
  - Twice weekly treatment for 4 weeks
    - Rest and Naproxen decreased pain to 5/10, but pain re-exacerbated with cycling
    - OI release – Active Release Technique
    - Pain decreased from 9/10 to 1/10 at 4 weeks
    - Pain resolved after 12 weeks

Manual Therapy/Chiropractic

- Durante and MacIntyre (2010) cont'd…
  - Further considerations:
    - What does the technique specifically involve?
    - Was it performed externally or per rectum?
    - Were associated techniques used? I.e. relaxation, stretching, cycling modification?

Psychological Considerations

- Persistent Pain (Rahme, Levey & Gharibo, 2009)
  - Altered processing of pain signals = central sensitisation
  - Pain related behaviours/attitudes
  - Decreased function/feelings of self worth
- Disruption of daily life (Fall, et al., 2010)

Case Study

- 41 year old female
- 4 year history of pain
- Aggravating factors
  - Sitting
  - Lifting
  - Lying on back
  - Vibration I.e. Car
- Toothache in nature
- Eased by prone lying/postural changes

Case Study cont'd…

- Reported bladder pain without UI
  - Cleared of IC
- Bowels
  - Pain with defecation, without constipation
  - Diagnosed with IBS
- Self employed graphic designer
  - Closed her business due to lack of ability to sit
- Traumatic event
  - 2007 – Sitting on Fitball and it burst. Fell on concrete. Workcover claim submitted.

Case Study cont'd…

- Past medical history
  - Removal of recto/vaginal septum and liberation of left utero-sacral ligament // Improvement in pain
  - 2009 - Laparoscopy to release bowel adhesions
  - 2011 – Peripheral Field Stimulator Implant after a successful trial 4 weeks earlier
- On presentation to Royal Women's
  - 15 Medical practitioners
  - 11 allied health/complimentary therapists

Case study cont'd…

- Initial assessment (objective)
  - Tenderness on palpation of right OI (internally and externally), LA, PC. Increased patients pain, then decreased.
  - Ileum compression using a belt assisted in pain management – Relieve pressure from pudendal nerve
  - Management – Use of belt, education regarding condition, postural education

Case Study cont'd…

- 2 week review
  - Driving possible
  - Belt assisting with pain
  - Pain over rectal branch distribution remained
- 6 weeks after initial review
  - Able to sit in Draftsman's chair
  - Able to generally sit/stand/lie supine ~ 1 hour
  - Management –
    - Alexander relaxation technique/ LA TP's
  - Burning over rectal branch remained
    - Trial Ice/Neurofen

Case study cont'd…

- 15 weeks after initial session
  - Pain much improved
  - Belt continued to help
  - Husband incorporated into exercises
    - External OI TP techniques explained
    - Postural relief
      - Supine
      - Hip flexion/ER of symptomatic side
      - Hip extension contra-lateral side
      - Iliac compression
      - Gluteal distraction
  - PN block test to assist diagnosis/management

Case Study cont'd…

- 18 weeks after initial session
  - Had 2 hours of relief from pain daily
  - Able to pace sitting times
  - Decided to submit an impairment claim to Workcover

Patient's perspectives

- Barriers faced by PN sufferers with Workcover
  - Delay in diagnosis – past initial 130 days. Therefore classed as long term case
    - Decreased contact and support
  - Questionable suitability of members of the medical panel – No neurologist
    - Diagnosed with "chronic pain condition"
    - No recognition of neuropathic pain according to 1958 act.
    - Not provided with any capacity

Patient's Perspectives cont'd

- Workcover barriers cont'd…
  - Requested Neurologist referral – Uneventful, condition considered gynaecological after success with previous surgery
  - Approval for implant declined – self funded
  - Referred to AF
    - Not recognised by workcover, funding declined
  - Current suspended claim
    - Initial injury not attributed to current symptoms (?)

Patient Perspectives cont'd

- Breakthroughs
  - PN block injections assisted diagnosis
    - Clear MRI
  - Epworth Pain Clinic
    - Feldenkrais techniques
    - Alexander relaxation method
  - Meeting AF
    - Education
    - Recognition
    - Listened to
    - Assisted in possibility of RTW 1 hour daily

Patient Perspective cont'd

- Currently
  - Medical panel – Stimulator still required? AF still required (although attending publicly).
  - Submission of Impairment claim
  - Deemed unfit (no capacity) once again – potential removal of aids

Conclusions

- PN has several mechanisms with defined symptoms
- Recommendations for diagnosis
- Ideal management for PN not yet defined
- Limited physiotherapy studies
- Few high quality medical studies - surgical
- Main barrier for patients
  - Diagnosis/Recognition of the condition
  - Limitation of resources

Recommendations cont'd

- Increase public resources
  - Website
  - Forum
  - Associated symptoms – Awareness through CFA and other bodies

Recommendations

- Research
  - Symptom classification for physiotherapists
  - Refined medical diagnostic criteria
  - Comparative studies
    - Postural management V's TP's
    - Physiotherapy +/- CBT
    - Post surgical Physiotherapy V's no physiotherapy
- Barriers
  - Participant numbers and recruitment
  - Often diagnosed later – Co-existing factors such as central changes

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