

An Anesthesiologist's Approach To Vulvar Pain

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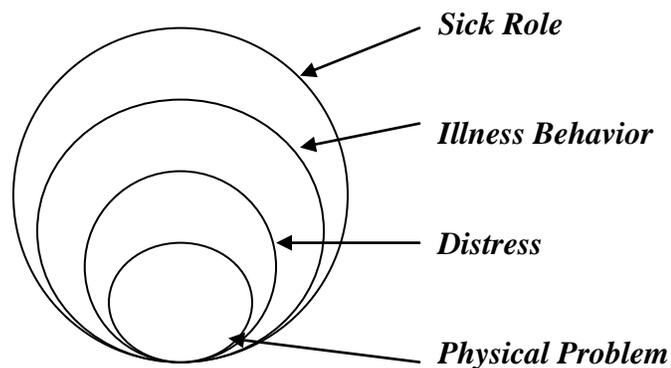
Introduction

- The Chronic Pain Patient
- Types of Pain
- Medications
- Injections
- Interventions
- Implants

Definitions

- Pain: an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

Glasgow Illness Model



Sick Role

Illness Behavior

Distress

Physical Problem

CP Syndrome vs. CP

Sign/Sx	CP Syndrome	CP
Pain > 6 mo	Yes	Yes
Obj findings	Yes/No	Yes/No
Pain behaviors	Yes	No
Overuse	Yes	No
Substance abuse	Yes	O
Sx Magnification	Yes	No

Hallmarks of CP Syndrome

- Willingness to undergo repeated diagnostic studies with generally, inconclusive or contradictory results
- Willingness to under go repeated therapeutic procedures w/temporary relief at best, often pain worse
- Over-utilization of health care (frequent visits)
- Doctor shopping
- Multiple pain behaviors

Types of Pain

Nociceptive somatic	Aching Gnawing Sharp	Arthritis Myofascial pain Incisions	Acetaminopher NSAIDs Opiates
Nociceptive visceral	Knife-like Crampy	Biliary or renal colic Bowel obstruction	NSAIDs Opiates
Neuropathic	Burning Lancinating Dysesthetic	PHN, diabetic neuropathy Phantom limb	Anti-seizure TCA, baclofen
Sympathetic	Burning, temp, color, allodynia, hyperpathia	CRPS I CRPS II	TCA, AED, vasodilators Blocks, TENS

Definitions

- Allodynia: pain due to a stimulist that is not normally painful (e.g. light touch)
- Dysesthesia: an abnormal and unpleasant sensation (e.g. itching)
- Hyperalgesia: increased response to a stimulus that is normally painful (warm water on sunburn)
- Hyperpathia: increased response to a stimulus and increased threshold to a stimulus
- Paresthesia: an abnormal sensation that is not unpleasant (e.g. tingling)

Sympathetically-Maintained Pain

- Reflex sympathetic dystrophy = complex regional pain syndrome I
- Causalgia = CRPS II (associated major nerve injury)
- Burning pain, allodynia, hair and nail growth changes, swelling, temperature changes
- Can involve any part of body including viscera
- Diagnosis via sympathetic block

“Wind up” in the WDR

Repetitive noxious stimulation leads to gradual increase in perceived pain. Slow temporal summation mediated by C fibers.

Medications

- Anti-inflammatory Agents (COX I, COX II)
- Anti-histamines
- Antidepressants
- Anticonvulsants
- Muscle Relaxants
- NMDA Receptor Agents
- Opiates

NSAIDs, COX II Agents

- Analgesic and anti-inflammatory effects
- Rapid pain relief
- Improved function
- Lack of CNS effects of opioids
- Lack of GI effects of opioids
- Variety of agents/formulations available
- Limits: GI, platelet effects, renal, hepatic

Antidepressants

- Rationale:
 - Neuropathic pain
 - Sleep disturbance
 - Depression
- TCAs
 - Amitriptyline, nortriptyline, desipramine
 - Trazodone (quadacyclic)
- SSRIs, Serotonin antagonists, SNRIs
- Titrations

Anticonvulsants

- Na, Ca channel block = membrane stabilizing
- Potentiate GABA = inhibit noxious stimuli
- Block glutamate (agonist) synthesis, release

- Choices
 - Gabapentin (Neurontin)
 - Oxcarbazepine (Trileptal)
 - Topiramate (Topomax)
 - Lamotrigine (Lamictal)
 - Zonisamide (Zonegran)

Gabapentin/Neurontin

- Ca⁻, GABA⁺
- Renally cleared, rate limited absorption
- T_{1/2} = 6 hours, Goal tid to qid dosing
- Dosing: 100, 300, 400, 600 mg tabs
 - Start 100-300 mg** qhs, add 1 tab q 3-4 days
 - Up to 900 mg qid, as tolerated, to effect
- Limiting side effects: drowsiness, dizziness, ataxia, impaired memory, mood changes

Zonisamide/Zonegran

- Ca⁻, Na⁻, GABA⁺, glutamate⁻, weak CA⁻
- Renal > hepatic (cytochrome P450)
- T_{1/2} = 63 hr
- Dosing: 100 mg qhs x 2 wk, 200 qhs x 2 week, 300 qhs x 1 week, then 400 mg. qhs
- Side effects: weight loss **, anorexia

Muscle Relaxants

- Cyclobenzaprine/Flexeril
- Skelaxin
- Zanaflex
- Baclofen/Liorisal
 - Good for central spasticity, spasm
 - Also good for neuropathic pain
- NOT Carisprodal/SOMA

NMDA Receptor Agents

- Magnesium
 - 250 mg tabs, 2 PO BID or 4 PO QD
 - Goal: Mg level at high normal
- Dextromethorphan (Daxalone, cough medicine)
 - Up to 30 mg TID
- Ketamine
 - Usually reserved for malignant, neuropathic pain, some reversal of opioid tolerance
 - Test IV-10 mg, for effect
 - Give 10-15 mg of IV formulation PO q 8 hrs

Opioids

- Analgesic, sedating
- Rapid onset, variable duration, depending on site, drug

- Multiple formulations (PO, IM, IV, IN, TD, epi)
- Use cautiously in patients with anxiety/depression
- Neuropathic pain requires larger doses than somatic pain (AEDs, TCAs better)

Medications: Opiates

- *Tramadol*
- *Short Acting Opiates*
 - Darvocet
 - Hydrocodone (Vicodin, Lortab)
 - Oxycodone (Roxicodone, Percocet, Tylox)
 - Hydromorphone (Dilaudid)
 - Morphine (MSIR, Roxanol)
 - Fentanyl
- *Long-acting Agents*
 - Methadone (also has NMDA receptor effects)
 - Morphine SR (MS Contin, Kadian, Oramorph SR)
 - Fentanyl Patch (Duragesic)
 - Hydromorphone SR (Dilaudid SR in future)
 - Oxycodone SR (Oxycontin)

Injections

- Trigger Point Injections/Neuromas
- Somatic Blocks
 - Ilioinguinal/iliohypogastric/genitofemoral
 - Pudendal
 - Caudal
- Sympathetic Blocks
 - Superior or inferior hypogastric
 - Ganglion of Impar

Trigger Point Injections

- Trigger point = focal area of muscle spasm
 - Direct or referred pain sites (e.g. abdominal wall)
- Inject with local anesthetic to break cycle
 - Bupivacaine 0.5% 3-5 ml
 - Botox if refractory
- May need to be repeated
- Augment effect with muscle relaxants, self-regulation techniques, TENS, massage, etc

Somatic Nerve Injections

- Peripheral nerve, epidural, caudal
- Local anesthetics often effective alone
 - Antiinflammatory effects
 - Membrane stabilizing effects
 - Turn off wind-up, central sensitization
- Local with steroid
 - Antiinflammatory, membrane stabilizing
 - Soften scar

- CAUTION: Atrophy of muscle, skin; adrenal suppression with repeated doses

Sympathetic Ganglion Blocks

- Options
 - Local anesthetic – dx, therapeutic
 - Neurolytic (sarapin, alcohol, phenol)
 - Radiofrequency
- Pelvic pain
 - Hypogastric plexus
 - Epidural/central neural blockade
- Perineal
 - Ganglion of Impar

Ganglion of Impar

- Sympathetic ganglion located anterior to the sacro-coccygeal junction
- Provides sympathetic distribution to the perineum, vulva, perianal area
- Injection: 25 g 1.5” needle, long-acting local anesthetic (e.g. 0.5% bupivacaine), 5-10 ml.
- Repeat 1-2 times per week depending on response

Interventions

- Physical therapy
- Manipulation
- TENS (transsacral/transvaginal/transrectal)
- Counseling
- Self-regulation techniques
 - Self hypnosis
 - Biofeedback
 - Guided imagery

Implanted Therapies

- Spinal Cord Stimulation
 - Dorsal column
 - Sacral nerve root
 - Peripheral nerve
- Intrathecal Pump
 - Narcotics, local anesthetics
 - Clonidine, Baclofen, Ketamine, Ziconitide
- Very expensive, long term commitment
- Technical failures, “foreign body” risks

Conclusions

- Chronic pain is complex and requires a multimodal, creative treatment plan
- There are multiple medications and interventions that can be incorporated
- Different medications may need to be done

- Think sympathetically-maintained pain for burning pain with allodynia especially if there is no overt pathology. Treated early, can be managed very successfully.

Vulvar Dysesthesia: Can recent research help clarify disease nomenclature?

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A useful classification of disease should provide at least one of several goals:

- Reflect the understanding of pathophysiology of the condition.
- Predict prognosis of defined disease subsets
- Provide insight into the choice of therapy

Recognizing the need for an updated classification, the 1999 World Congress of the International Society for the Study of Vulvovaginal Disease (ISSVD) convened a discussion group to update classification of chronic vulvar pain. The discussion group focused on the illdefined category of chronic vulval pain *without visible dermatosis* and proposed the term “Vulvar Dysesthesia, (vulvodynia)” for this category. Vulvar Dysesthesia was further divided into “generalized” and “localized” types. “Localized vulvar dysesthesia” was synonymous with vulvar vestibulitis syndrome and included vestibulodynia and clitorodynia. Due, in part, to the lack of agreement about the presence of classically defined inflammation, the 1999 World Congress of the International Society for the Study of Vulvovaginal Disease (ISSVD) proposed to change the term “vestibulitis” to “vestibulodynia”.

Vestibul – “itis” or “odynia”?

The formerly used term “Vulvar vestibulitis” lost favor because, an inflammatory pathogenesis is considered controversial, based upon the poor correlation between vestibular pain and classical inflammatory infiltrate. In spite of reports of severe pain, significant number of biopsy specimens of the vulvar vestibule displayed only mild inflammatory infiltrate, see Table 1. In reports comparing pain-free controls and VVS-afflicted cases, the degree of inflammatory infiltrate was often similar.

Table 1. Summary of histopathology in VVS surgical cases and pain free controls with respect to degree of inflammatory infiltrate in the vulvar vestibule. Evident in the more recent two reports, mild and severe inflammatory categories are similar between VVS cases and pain-free controls

Inflammatory Infiltrate

Authors	Mild		Moderate		Severe		Total	
	Case	Control	Case	Control	Case	Control	Case	Control
Peckham et. al., 1986	6				1		7	
Pyka et. al., 1988	12		22		7		41	
Wilkinson et. al., 1993	13		12		6		31	
Bergeron et. al., 1994	6				5		11	
Prayson et. al., 1995	11		21		4		36	
Lundqvist et. al., 1997	3	3	13	4	4	4	20	11
Slone et. al., 1999	6	4	5	1	4	1	15	6
Total	62	7	74	5	37	5	173	17
Proportion	0.36	0.41	0.42	0.29	0.21	0.29		

ISSVD Terminology and Classification of Vulvar Pain (2003)

Vulvar pain related to a specific disorder
 Infectious, Inflammatory, Neoplastic, Neurologic

Vulvodynia (vulvar dysesthesia)
 Generalized (provoked, unprovoked, mixed)
 Localized (provoked, unprovoked, mixed)

Changes initiated in 1999 have continued to evolve through the following two ISSVD Congresses and have culminated in the present classification (2003). A useful classification of chronic vulvar pain remains elusive for several reasons. First, its pathophysiology remains obscure, second, therapeutic options are not well studied, and finally, a diverse group, including gynecologists, dermatologists, neurologists, psychiatrists, and physical therapists, manage chronic vulvar pain. This diverse group hold different understandings of pathogenesis, terminology, and treatment.

Moving from a “symptom-based”

toward a “mechanism-based” classification of vulvar pain

Pain research has experienced an information “explosion” based upon the application of molecular, cellular, and systems neurobiological techniques. Although neurobiological research in vulvodynia *per se* has only begun in the last several years, animal and human research in other pain syndromes/models surely will have applicability. Dimensions of pain, as well as topics of research, can be categorized in several ways:

- Phase 1 Nociceptive
- Phase 2 Neuro-inflammatory
- Phase 3 Neuropathic
- Peripheral sensitization
- Central sensitization
- Changes in “higher” cortical functioning (i.e. neuro-affective)

The classification of vulvodynia will evolve based on the development of reliable and valid measures of pain/pain dimensions

- QST measures
- Measures of central sensitization
- Imaging of Cortical Activity
- Psychometric measures

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England in the 19th Century

Patrick G. Walker, MD, FRCOG ASCCP 2004 Biennial Meeting

- Access to a doctor was free to workers, who were on lower pay, but this didn't necessarily cover their wives or children, nor did it cover other workers or those with a better standard of living. Hospitals charged for services, though sometimes poorer people would be reimbursed. Even so, it meant paying for the service in the first place – which not everyone could afford.

Poor people often went without medical treatment, relying instead on dubious – and sometimes dangerous – home remedies or on the charity of some physicians who gave their services free to their poorest patients.

UK Health Services

Throughout the 19th century, philanthropists and social reformers working alone had tried to provide free medical care for the poor. One such man was William Marsden, a young surgeon, who in 1828 opened a dispensary for advice and medicines.

- His 'London General Institution for the Gratuitous Cure of Malignant Diseases' – a simple four-storey house in one of the poorest parts of the city – was conceived as a hospital to which 'the only passport should be poverty and disease and where treatment was provided free of charge to any destitute or sick person who asked for it'.

Royal Free Hospital

- The demand for Marsden's free services was overwhelming. By 1844 his dispensary, now called the Royal Free Hospital, was treating 30,000 patients a year.
- With consultant medical staff giving their services free of charge and money from legacies, donations, subscriptions and fund-raising events, the Royal Free – now rehoused in larger premises – struggled to fulfil Marsden's vision until 1920 when, on the brink of bankruptcy, it was forced to ask patients to pay whatever they could towards their treatment.

National Health Service

- The National Health Service became reality on 5 July 1948.
- To deliver comprehensive health care to all, free at the point of delivery, irrespective of the ability to pay, funded from general taxation.

Financial Problems

- But initial estimates of the cost of the NHS were soon exceeded as newer, more expensive and more frequently used drugs were developed.

Early Difficulties

- Financial problems. It was impossible to predict the day-to-day costs of the new service and public expectations rose. Medical science was rapidly gathering pace.

Aims of the NHS – 2004

The NHS aims to bring about the highest level of physical and mental health for all citizens, within the resources available, by:

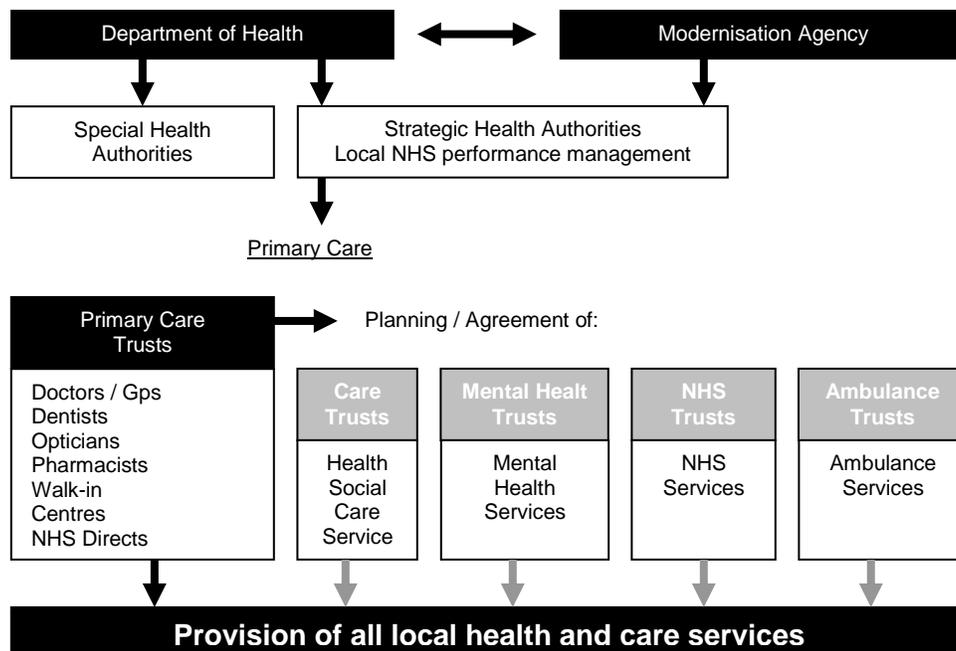
- promoting health and preventing ill-health
- diagnosing and treating injury and disease
- caring for those with a long-term illness and disability. Who require the services of the NHS.

Management

- The NHS is funded by the taxpayer. This means it is accountable to Parliament. It is managed by Department of Health – which is directly responsible to the secretary of state for health John Reid.
- The department sets overall health policy in England, is the headquarters for the NHS and is responsible for putting policy into practice.

Present day difficulties

- Many of the tensions that emerged in the early days of the NHS have challenged its senior management and successive Governments ever since.
- Today the NHS has a workforce of over one million people and a budget of around £50 billion year for a population of 60 million persons.
- Yet, the fundamental questions – how best to organise and manage the service, how to fund it adequately, how to balance the often conflicting demands and expectations of patients, staff and taxpayers remain.



Success for the NHS

- The National Health Service Cervical Screening Programme

Screening

“Actively seeking to identify a disease or predisease condition in people who are presumed and presume themselves to be healthy.”

Does Cervical Cancer Screening Work?

- In countries that have introduced population based screening with good coverage, there is a clear reduction in the incidence of and mortality from cervical cancer.

Issues in the NHSCSP

- Liquid based cytology
- Human papillomavirus testing
- Screening intervals
- Changes in terminology
- Changes in referral criteria

The NHSCSP

- The National Health Service Cervical Screening Call and Recall Programme was introduced in 1988
- Women aged 20-64 are invited for screening every 3-5 years by cervical cytology.

Terminology

UK and USA

“Two similar countries separated only by a common language”

BSCC Consensus Conference

Move towards Bethesda

- Stratily BNA - ¿reactive? ¿High grade? ¿Glandular?
- Low grade/high grade (no more moderate)
- Group koilocytosis with low grade

BSCC Consensus Conference

- Normal

- Borderline
- Mild dyskayosis (CIN)
-