The Treatment of Chronic lower back pain: The Good, the Bad and the Ugly
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- Disclosures: None
Goals of Lecture

- Review basic treatment approach to chronic axial back pain in the straightforward and complex patient
- Review role of exercise in chronic lower back pain
- Review prognostic indicators in chronic low back pain
- Review role of interdisciplinary programs
Case 1: The Good
Case One

- 55 year old male with 20 years of intermittent back pain; lasts days to 2 years
- Current pain developed in lower back and right buttock is 7/10; onset one week
- Mild paresthesias in right plantar foot.
- PMH: asthma, hypercholesterolemia
- PSH: ACL reconstruction, tarsal tunnel, third degree acromioclavicular repair
Case One

- No previous treatment other than prn NSAIDS
- Married, with three kids
- Physician, fairly sedentary
Case One

- **PE**: 
  - Limited lumbar flexibility
  - Tight hamstrings
  - Right EHL 4/5
  - Mildly pudgy
MRI of Lumbar spine
Diagnosis

- Axial back pain, probably discogenic
- Goals
  - Manage acute flare
  - Create long term strategy to decrease frequency of flares and lessen length of flare
Acute treatment

- Annals of Internal Medicine, 2007:
  - Chou, R
    - Provide patients with evidence based information about their expected course
    - Advise patient to remain active
    - Provide information on self care options
      - Strong recommendation, moderate evidence
Treatment Options

• Annals of Internal Medicine, 2007, Chou
  – Consider use of medication with proven benefits in combination with health care information and self care options
    • First line treatment: acetaminophen and NSAIDs
    • Short term efficacy: NSAIDS, muscle relaxants
    • Chronic: Tricyclics (moderate)
    • Chronic
      • Fair: acetaminophen, opioids, tramadol, benzodiazepine, and gabapentin for radiculopathy
Treatment Options

- If self care options fail:
  - Acute: superficial heat (moderate benefit)
    - spinal manipulation (small to moderate benefits)
  - Subacute/chronic: exercise, interdisciplinary tx, manipulation, cognitive behavioral tx
    - Strong recommendation, moderate evidence
Mobilization Studies

- Deyo, NEJM v315, 1986
  - 2 vs 7 days of rest for acute low back pain
  - 2 day group missed 3.1 days
  - 7 day group missed 5.6 days
  - No difference in clinical outcome

- Vroomen, NEJM v340, 1999
  - Bed rest vs watchful waiting for 2 weeks in patients with sciatica
  - At 12 weeks no difference; 87% improved.
Mobilization: Basic Principles

- Axial pain: out of bed within 2-7 days
  - Cochrane Group: “Advice to stay in bed is less effective than advice to stay active for acute low back pain.” Spine: v. 30, 2005

- Radicular pain:
  - Cochrane Group: “Little or no difference between advice to rest in bed or stay active.”

- Take what the patient’s body has to give to you; avoid no pain, no gain.
Exercise and Back Pain

- Vad et al, 2007 Arch Phys Med
  - Exercise in discogenic low back pain
  - History of 3 months of back pain
  - Back exercises with meds and a brace were more effective for pain control than medications without exercises
  - Reduced recurrence rates in exercise program
Exercise and Back Pain

- Faas et al, Spine 1996
  - Reviewed randomized exercise trials
    - Exercise is effective in subacute and chronic back pain, but not in acute back pain
- Tulder et al, Spine 1997
  - Exercise is not effective in acute back pain
  - Exercise, manipulation and low back schools are effective in chronic low back pain
Benefits of Exercise and Activity

- Improved aerobic endurance increases muscle endurance
- Body mechanics improve with less fatigue
- Patients in exercise programs improve overall health care
Exercise

- Motion improves disc nutrition
- Improve strength and flexibility
- Psychological benefits
- People who are well conditioned rate pain as less severe than people who are not fit
Exercise

- Weight reduction
- Feeling of well being
- The patient takes some responsibility for getting well
Exercise

- Stretch and strengthen short of pain exacerbation
- Stretch tight structures and strengthen weak musculature
- Progress to more general flexibility and aerobic program as condition improves
Low Back School

- Basic anatomy and physiology
- Postural techniques
- Proper body mechanics
- Ergonomics: specific to vocation/ activity
- Basic exercise techniques
- Importance of fitness
Psychosocial intervention

- Individual counseling
- Stress management
- Cognitive strategies for pain management
- Marital counseling
Vocational Team

- Counseling
- Work tolerance
- Placement
- Ergonomics
Therapeutic Injection Options

- Epidural Steroids  
  - transforaminal, caudal, interlaminar
- Facet joints
- Sacroiliac joints
- Trigger points
- Intradiscal Steroids
Good outcome
Case 2: The Bad
Case Two

- 45 year old female with 15 years of back pain after job injury
- Pain 10/10 with all activities in lower back
- No radiation, paresthesias or weakness
- Nothing makes it better or worse
- All previous treatment failed
  - Injections, physical therapy, acupuncture
  - Sees psychiatry
Case two

- Past medical history
  - Depression, Irritable bowel syndrome
  - Hysterectomy secondary to fibroids
- Medication
  - Current: zoloft, naprosyn, hydrocodone
  - Past: neurontin, topomax, ultram, cymbalta
Case Two

- Single, lives alone in housing for the disabled
- Three children, not involved in care
- High school graduate
- Disabled since mid 1990s from environmental services
- Independent with ADL’s and light homemaking
Case Two: Physical examination

- Limited lumbar flexibility
- Diffuse tenderness to light palpation
- SLR and hip result in lower back pain
- Lower extremity diffuse 4/5
- Sensation variable
- Reflexes intact
- Gait stable
MRI of lumbar spine
Prognostic indicators

- Sociodemographic factors (Mroz et al, Spine, 2011)
- Fusion vs nonoperative
  - More studies needed
  - pending litigation, worker’s compensation, sick leave, heavy labor (weak)
Prognostic Indicators

- Psychological (Daubs, MD et al, Spine 2011)
- Fusion vs nonoperative
  - Depression, neuroticism, personality disorders (weak)
Who develops chronic back pain?

- Chou, R, JAMA, 2010: review of 20 studies
  - Maladaptive coping behaviors
    - Avoid usual activities secondary to fear of pain
  - Nonorganic signs
  - Severity of functional impairment
  - General health status
  - Presence of psychiatric comorbidities
- Depends on how poor outcome is defined, patient setting and duration of follow up
Potential goals of Treatment

- Pain Management/ Relief
- Functional improvement
  - ADL’s, homemaking, recreation, childcare, sexuality, return to work
- Appropriate utilization of medical services
- Appropriate use of medication
- Improve psychosocial function
Potential goals of Treatment

- Education
  - Anatomy/Physiology
  - Body mechanics
  - Ergonomics
  - Education

- Independence with pain management strategies
What is the her goal?
“I want to know what is going to take my pain away!”

- Internal locus of control
- External locus of control
What do you want to do?

- Evaluate for surgery
- Epidurals, sacroiliac injections, facet injections
- Spinal cord stimulator
- More therapy
- Narcotic trial?
Multi/interdisciplinary pain program

• Integrated intervention with rehabilitation plus a psychosocial and potentially vocational component
• Must be goal oriented with functional goals
• Patients must be involved and committed to functional goals
  • Chou R, 2007
    • Moderately superior to noninterdisciplinary rehab
    • Consider for patients who do not respond to standard treatments
Interdisciplinary approach

- Supportive literature
  - Peters, J, Pain, 1992
  - Flor, H, Pain, 1992
  - Chou R, 2007
  - Lipchik GL, Clinical Journal of Pain, 1993
  - Guzman J, British Medical Journal, 2001
Interdisciplinary Approach

Problems

• Not for everyone
• Expensive: limited insurance coverage
• Does it get patients back to work?
• Not available everywhere
Case 3: The Ugly
Case Three

• 46 year old left handed male
• 3 years of neck pain 2-9/10
  • Radiates to all five fingers bilaterally as pain and paresthesias, diffuse weakness
• 3 months of back pain 2-10/10
  • Diffuse pain and paresthesias bilaterally in lower extremities
Case Three

- Cervical ESI no relief
- Some PT, no relief
- Meds
  - Gabapentin 300 HS, omeprazole, fentanyl 50 mcg, singular, synthroid, lidoderm, simbicort
- ROS: sleep apnea, reflux, asthma, fever, fatigue, tinnitus, blurred vision, irritable bowel, anxiety, depression, urinary urgency
- Single, medical archivist
Physical examination

- Anxious, pressured speech, flight of ideas
- 90 minute evaluation
- Diminished cervical and lumbar flexibility
- Generalized tenderness
- Neurologic status normal
Cervical MRI
Cervical MRI

- Lumbar MRI
- Generalized bulging without a compressive lesion
Diagnosis

- Chronic pain syndrome
- Cervical radiculopathy
- Lumbar radiculopathy
- r/o fibromyalgia, polyneuropathy
Evaluation

- Emg upper and lower extremity negative
- Rheumatologic evaluation negative
Treatment options

- Surgery
- Injections: cervical or lumbar epidural
- Therapy: PT, psychology, biofeedback
- Medication: neurontin, cymbalta, fentanyl
- Weight loss
- ? Urologic, rheumatologic and gastrointestinal evaluations
What do you want to do?
Treatment

- Physical therapy to mobilize cervical and lumbar spine
- Psychological treatment for counseling and biofeedback and relaxation
- Wean durgesic and increase neurontin
  - Ultimately changed neurontin to lyrica
  - Added vicodan in lieu of durgesic; ultimately changed to tramadol
  - lidoderm
- Weight loss
Outcome

- Pain levels 3-4/5 in neck and back
- Depression and anxiety is much better
- On less medication
- Lost 20 lbs
- Exercising
- Work full time
Any questions?