Back Pain in General Practice

Mr Ravindran
Airedale General Hospital
BACKACHE

20 million attended GP
3 million OPD
2 million X-rays
200,000 admitted to hospital
50,000 operated
COST

1 billion for NHS cost
3 billion DHS benefit
8 billion lost production
History taking

- Acute
- Acute on chronic
- Back or leg pain
- Back pain – sitting intolerance, movements
- Leg pain – above or below the knee
- Night pain
- Claudication symptoms
- Sensory symptoms and its distribution
- Bladder or Bowel symptoms
- Social history
- Occupational history
- Financial history – disability benefits, compensation claim
LOW BACK PAIN

- Neurogenic
- Viscerogenic
- Vasculogenic
- Spondylogenic
- Psychogenic
Spondylogenic

- Trauma
- Infection
- Tumours
- Metabolic
• To know as much about the patient who has the Backache as about the Backache the patient has
THE HISTORY

A doctor who cannot take a good history and a patient who cannot give one are in danger of giving and receiving bad treatment
• 30 year old postman
• Minor backache for 3 months
• Acute right leg pain with sensory symptoms along the back of his leg up to the sole of the foot and the little toe.
• Pain is constant – standing and walking makes pain worse
• SLR 50 degrees tension sign is positive, ankle jerk is absent
• Reduction of sensation lateral two toes
Disc Degeneration with root irritation: Disc Ruptures
- 55 year old self employed joiner
- History of chronic back pain of about 6 years duration with minor recurrent acute episodes controlled by analgesics and osteopath treatment
- Doing a lot of lifting the night before, unable to get out of bed, acute back pain with some pain around both gluteal areas
- Sitting is more painful any bending movement causes pain
- Examination shows a stiff lumbar spine, straight leg bracing 40 degrees both sides, no neurological signs in the lower limbs
DISC DEGENERATION WITHOUT ROOT IRRITATION
• 70 year old lady lives on her own and is a keen walker
• Complains of pain in the back of both legs and calf of six month duration
• Pain gets worse when walking a quarter of a mile
• Moderate back pain claims leg pain is worse than the back pain
• Leg pain is better when she bends forwards like when holding onto a supermarket trolley
• Examination shows reasonable range of lumber spine movements and SLR 70 degrees both sides
• Angle jerk is reduced on both sides, sensation normal, peripheral pulse is normal
SPINAL CANAL STENOSIS
EXAMINATION
10 commandments of examination

1. Look
2. Feel
3. Move
4. SLR
5. Reflexes
6. Motor Power
7. Sensation
Examination 2

8. Hips
9. SI joins
10. Peripheral pulses
Investigation

- Bloods
- X-ray
- MR Scan – Diagnostic. Therapeutic!!
- CT Scan
- Bone Scan
- Nerve conduction studies and EMG
MANAGEMENT OF BACKPAIN
CONSERVATIVE TREATMENT

- Mobilisation within pain limits
- Analgesic and anti-inflammatory drugs
- Physiotherapy
Pathological Changes That Initiate Pain

1. Within the disc
   Annular tears
   Disc resorption
   Osteophyte formation
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2. In facet joints
   - Synovitis
   - Capsular laxity
   - Degeneration of articular cartilage
Pathological Changes That Initiate Pain

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2. In facet joints
   Synovitis
   Capsular laxity
   Degeneration of articular cartilage

3. Muscles and ligaments
   Stretch
   Tear and hematoma
Fore Stay

Stern Stay

Abdominal muscles "fore stays"

Sacrospinales: "stern stays"

Cross-bracing of a mast

Rotator muscles of the spine: "Cross-bracing"
Intensive Rehabilitation Programme

- Physical
- Psychological (cognitive behaviour therapy)
- Social
- Occupational

Bio psychological approach
INJECTIONS

• Epidural
• Facet joint
• Nerve blocks
• Trigger point
Pain Clinic
1. How long will conservative care take relative to the demands of daily living?

2. What residual neurological deficit will be left?

3. What if conservative treatment does not relieve the pain?
SURGERY

Obsolete Indication
• Cauda Equina Syndrome
• Increasing neurological deficit

Relative Indication
• Failure of conservative treatment
• Recurrent sciatica
• Disc prolapse in a stenotic canal
Degenerative Disc
“Back Pain Disc”
Treatment Options

• Non-operative Care
• Live in Pain
• Spinal Fusion
• IDET
Nucleoplasty
• FENESTRATION
• MICRODISCECTOMY
Surgical options

- Static procedures
  - Instrumented lateral mass fusion
  - PLIF
  - ALIF
  - TLIF
  - Combination procedures

- Dynamic procedures
  Wallis dynamic ligament stabilisation
  disc replacement
Wallis dynamic ligament stabilisation
DISC REPLACEMENT

[Image of a disc replacement device]
No scientific evidence about the effectiveness of any form of surgical decompression or fusion for degenerative disc disease compared with natural history, placebo or conservative treatment
“Dear Sirs:
    I saw this very pleasant claimant, George Smith, today, and the poor fellow has not responded to conservative therapy at all. He is totally unable to work. His radiographs show marked disc degeneration, and I plan to bring him into the hospital for a local fusion.”

“Dear Sirs:
    I operated on George today, and I am sure he will do well.”

“Dear Sirs:
    I operated on George today, and I am a little disappointed with his progress to date.”

“Dear Sirs:
    Smith’s radiographs show a solid fusion, but he shows surprisingly little motivation to return to work.”

“Dear Sirs:
    This dreadful fellow Smith.”

“Dear Sirs.”
    Smith obviously needs psychiatric help”
• Spinal fusion at best has only a small role in managing chronic back pain caused by degenerative disc disease
• Spinal fusion probably has a role in
  – Carefully selected limited groups of patients
• Single level
• Short time off work
• Narrow disc
• Low neuroticism
• Working women
Acceptance for surgery

- High
  - Insured patient
  - NHS patient
- Low
  - Self paying patient
• WRONG PATIENT
• WRONG DIAGNOSIS
• WRONG OPERATION
SPINAL CANAL STENOSIS
Elderly women with central stenosis in the absence of neurological signs
CALCITONIN

- 100 IU - calsynar 4 times a week for 4 weeks
- Central analgesia
- ^ blood flow to nerve roots
- Response 2-8 weeks
- 40% respond well
Spinal stenosis with significant claudication symptoms

- Interspinous distraction procedures
- Decompression with or without stabilisation
Interspinous Distraction Procedures

• XSTOP
SPONDYLOLISTHESIS
### Commonly Accepted Clinical Classification of Spondylolisthesis

<table>
<thead>
<tr>
<th>Type</th>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Dysplastic</td>
<td>Congenital abnormalities of upper sacrum or arch at L5</td>
</tr>
<tr>
<td>II</td>
<td>Isthmic</td>
<td>Lesion in pars interarticulars</td>
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<tr>
<td></td>
<td></td>
<td>Lytic-fatigue fracture</td>
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<tr>
<td></td>
<td></td>
<td>Elongated but intact pars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute fracture</td>
</tr>
<tr>
<td>III</td>
<td>Degenerative</td>
<td>Facet joint degeneration</td>
</tr>
<tr>
<td>IV</td>
<td>Traumatic</td>
<td>Fractures in areas of arch other than pars</td>
</tr>
<tr>
<td>V</td>
<td>Pathological</td>
<td>Secondary to generalized or localized bone disease</td>
</tr>
</tbody>
</table>
Vertebroplasty
INTRODUCTION

- Percutaneous vertebroplasty is a therapeutic procedure that involves injection of bone cement into a cervical, thoracic, or lumbar vertebral body lesion for the relief of pain and the strengthening of bone.
INDICATIONS

SYMPTOMATIC VERTEBRAL HEMANGIOMAS

PAINFUL VERTEBRAL BODY TUMORS (METASTASIS, MYELOMA)

SEVERE PAINFUL OSTEOPOROSIS
• The role of percutaneous cementoplasty is:
  – to treat pain
  – to consolidate the spine
Nonorganic Spinal Pain

1. Psychosomatic spinal pain
   Tension syndrome (fibrositis)

2. Psychogenic spinal pain
   Psychogenic modification
   of organic spinal pain

3. Situational spinal pain
   Litigation reaction
   Exaggeration reaction
• Stoic
• Race horse syndrome
• Razor’s edge syndrome
• Worried-sick syndrome
• Last straw factor
• Camouflaged emotional breakdown
• “What if I settle” syndrome
• “Head to toe” syndrome
When to refer to secondary care
Overview of Guidelines

DIAGNOSTIC TRIAGE

SIMPLE BACK PAIN

PROVIDE ADVICE & INFORMATION:
- pain relief
- avoidance of bed rest & inactivity
- self-help measures
- exercise & mobility
- return to work

2 - 6 WEEKS
Is pain settling & mobility level increasing?

YES
NO

Nerve Root Pain

Is there severe or progressive motor weakness?

YES
NO

Primary Care Management for 6 weeks
Consider referral for Physical Therapy

Primary Care Management

Continued Primary Care Management

returned to work or normal activities by 3 months

Yes

No

Are indicators of chronic disability present?

Yes

No

Multidisciplinary Rehabilitation Service

Serious Spinal Pathology

Urgent Specialist Referral

6 - 12 WEEKS
Is pain settling & mobility levels increasing?

YES

NO

Consider referral to Physical Therapist
- Physiotherapist
- CPM
- Osteopath

People still off work or not back to normal by 12 weeks

East Lancashire Health Authority

Simple Back Pain Overview

First six weeks are crucial in preventing chronicity

PROMOTE
- Positive attitudes
- Realistic expectations
- Exercise and mobility
- Early return to work

CONSIDER
- Physical Therapy
- Exercise on prescription
- Opiates
- Hospitals

AVOID
- Rest
- X-rays
- Opites
- Hospitals

People still off work and/or normal activity between 6 - 12 weeks are in the 'pre chronic stage'.

- Review diagnostic triage
- Consider referral for:
  - Physical Therapy
  - Second GP Opinion

The probability of becoming disabled due to back pain is increasing

People still off work and/or normal activity by this stage (6 - 12 weeks) should ideally be referred to a multidisciplinary rehabilitation service.

ELHA is currently reviewing the configuration of secondary services for back pain, with a view to commissioning such a multi-disciplinary service.
SERIOUS SPINAL PATHOLOGY

Red Flags

- Significant trauma / RTA
- Structural deformity
- Widespread neurology
- Persisting severe restriction of lumbar flexion
- Age of onset less <20 or >55 years
- Constant progressive non-mechanical pain
- Thoracic pain
- Previous history of carcinoma
- Previous history of drug abuse/HIV
- Systemically unwell
- Weight loss
- Previous history of systemic steroids

When there is Red Flag indicators urgent Specialist referral is recommended
CAUDA EQUINA SYNDROME / WIDESPREAD NEUROLOGICAL DISORDER

- Difficulty with micturition
- Loss of anal sphincter tone or faecal incontinence
- Saddle anaesthesia about the anus, perineum or genitals
- Widespread (>on nerve root) or progressive motor weakness in the legs or gait disturbance

Urgent Specialist referral is recommended
• Patients with red flag signs
• Patients not responding to adequate conservative treatment of 6 weeks
• MR scans showing:
  – large sequestrated disc prolapse with significant clinical signs
  – Significant spinal canal spenosis
• Spondylolisthesis with severe recurrent leg and back pain
• Osteoperotic fractures with severe pain not settling even after 6-8 weeks
Patients who could be managed in primary care

- Multi level disc disease with facet joint problem
- Minor to moderate disc bulge with radicular symptoms
- Moderate spinal canal stenosis
- Spondylolisthesis with moderate back and leg pain
1. Do you have an accurate diagnosis? Is this a soft tissue syndrome, a discogenic problem, a root encroachment problem, a cauda equina encroachment problem or a combination of various syndromes?

2. Do you have the anatomical level?

3. Do you know your patient? Is he or she accurately reporting the disability, or is there some embellishment for medical-legal or compensation purposes?

4. What is the functional limitation? Is this collection of minor symptoms of nuisance value to the patient, or is there chronic cauda equina compression to the point that the patient needs aids for ambulation?
Recap
• History
• Clinical Examination
• Investigations

Diagnosis
Disc Degeneration with root irritation : Disc Ruptures
DISC DEGENERATION
WITHOUT ROOT
IRRITATION
SPINAL CANAL STENOSIS
Management

- Conservative
- Minimally invasive treatment
- Surgery
Conservative management

• Physiotherapy
• Injections
  – For back pain – facet joint injections
  – For leg pain – nerve root block, lumbar epidural
Intensive Rehabilitation Programme

- Physical
- Psychological (cognitive behaviour therapy)
- Social
- Occupational

Bio psychological approach
Minimally invasive treatment

• Leg Pain
  Nucleoplasty

• Back Pain
  Discogram – Proceed to IDET for symptomatic disc
Surgery
• **Radicular Pain**
  Significant disc prolapse
  Discectomy

• **Back Pain with instability**
  Fusion
Surgical options

• Static procedures
  – Instrumented lateral mass fusion
  – PLIF
  – ALIF
  – TLIF
  – Combination procedures

• Dynamic procedures
  Wallis dynamic ligament stabilisation
  disc replacement
Spinal stenosis with significant claudication symptoms

• Interspinous distraction procedures
  XSTOP

• Decompression with or without stabilisation
Cochrane Review Updated
Jan 2002 — Gibson, Waddel, Grant

No scientific evidence about the effectiveness of any form of surgical decompression or fusion for degenerative disc disease compared with natural history, placebo or conservative treatment
Pathological Changes That Initiate Pain
Dynamic MR Scan
Gene Therapy

- Inhibit degeneration
- Improve quality of disc
Thank You