Update on the Management of Chronic Pain in Haemophilia

A/Prof Carolyn Arnold
Specialist in Pain Medicine & Rehabilitation Medicine
Ron Sawers Haemophilia Centre, Alfred Health, Melbourne VIC
Declaration

• Employed by Alfred Health, Melbourne (Victorian Public Hospital)
• Employed by Victorian Worksafe Authority for the Medical Panels (a workers compensation medical tribunal)

Over last 5 years
• Honorarium from Pfizer for participating in a panel discussion at AIM Pain Education Session in 2014
• Honorarium from Grunenthal, for Advisory Board work regarding a new analgesic
Chronic Pain in Haemophilia

32 to 50% of people with haemophilia suffer chronic pain, principally from joint arthropathy (Holstein et al, 2012, European study)

Chronic joint pain is

• more common in those with severe haemophilia
• and more common in those without access to effective prophylactic factor replacement programmes
With effective prophylaxis bleeding can reduce from 25 to 2/year

Refs: Smith et al. J Paediatrics 1996
WFH Website, annual global survey 2012
1 in 2 PWH have chronic pain

In the overall population
1 in 5 people have chronic pain
Haemophilia's Crippling Joint Pain Is a Target for Scientists

The hunt is on for ways to diagnose and treat the joint problems that are now the main chronic problem in haemophilia.

By Katharina Gammon  Dec 15, 2014

As a physician who cares for adults with haemophilia, Annette von Drygalski sees patient after patient with bulging, painful knees and elbows caused by bleeding into the joint. The rise in cases of this crippling condition, which can lead to arthritis and disability, drives the work of von Drygalski and her team at the University of California’s San Diego Medical Center—part of a growing body of researchers studying haemophilic joint disease and the pain that it causes.

Before clotting factor became widely available as a treatment, people with
Progression of joint disease

Age 10
• Normal joints

Age 20 to 30
• Early evidence of arthropathy

Age 40 plus
• Moderate - severe chronic arthropathy
Haemophilic arthropathy causing chronic pain

Acute haemarthrosis

Subacute arthropathy /2° Synovitis
> repeated joint bleeds/ iron deposition/ synovial thickening
> “target joint”

Chronic arthropathy
> loss of cartilage
> sclerosis and subchondral bone changes
Figure 1 A chronic, self-perpetuating cycle of haemarthrosis–synovitis–haemarthrosis [29]. Reproduced with permission. © World Federation of Hemophilia, 2004.

Haemophilia and Joint Disease Pathophysiology and Management
Synovial hypertrophy and inflammation are a target for treatment

- Subject of much research
- Current approaches include enhanced prophylaxis, synovial treatment by intra-articular steroid (?), surgical synovium removal, injection with radioisotope (yttrium).
- In the future: biologic therapies to turn down inflammatory cascade
Is it blood in the joint?

Kidder et al (A.Von Dryska) 2015 Haemophilia

- **Proponent of MSK US at point of care to manage acute joint pain. Studied 34 pts, majority with severe haemophilia, 40 acute pain episodes**

- Haemarthrosis was present in only 1/3 of acutely painful joints

- In 2/3 pain was related to either inflammatory soft tissue changes (synovitis, tendonitis, enthesitis, bursitis)

- In 50% of those with acute pain and chronic pain, effusions were present
Is it blood in the joint?

• **Physicians assessments** were also inaccurate, based on patient interview and physical examination findings were incorrect in 18 out of 40 instances

• Imaging technology may help

• ? MRI  ?MSK US? Pfizer sponsored European trial
Determining the difference between an acute joint bleed and chronic arthropathic pain?

- **Can be difficult**, even experts (physicians) can misjudge when compared to imaging studies.
- Synovitis can also cause some effusion and swelling and pain
- Synovitis probably sensitizes pain receptors so pain is disproportionate to extent of joint inflammation or degenerative change
Goals of treatment of haemophilia to manage pain

• Refine prophylactic regimes to reduce risk of bleeding *

• Manage joint disease to minimise progression
  – Address synovitis *
  – Minimise factors that worsen degenerative progression

• Wholistic management of chronic pain to maintain function and quality of life
Role of Multidisciplinary Team in Haemophilia Care
For management of chronic condition

Ref: Butler and Mosely
Pain

- Protective function
- Subjective, complex perception
- Different components, not consistent or proportional

**Acute Pain**
Cause ➔ nociception ➔ perception

**Chronic Pain**
Pain perceived ➔ suffering experienced ➔ behaviour & communication ➔ social responses
PAIN PERCEPTION

Prior experiences

Attention/expectation

Mood (anxiety, depression)

Neurochemical and structural changes

Genetics

Sensitization (Peripheral and Central)

Descending, top down modulation

Ascending, bottom up information

Noxious stimulus

16th Century

21st Century

Irene Tracey 2008
Pain Perception varies and can be modified

Pain Perception is influenced by:

• stress/ anxiety
• cultural and social factors
• biological factors
• past experiences
• (rewarding nature of analgesics)
Chronic Pain

• Chronic arthritic joint pain, serves no functional purpose, can ignore it and keep up activity

• As distinct from acute pain in a bleeding joint
Do PWH have enhanced sensitivity to pain?

- Study took objective and subjective pain assessment & correlated it to severity of joint pathology.
- 36 patients/40 controls
- Tested:
  - mechanical pain thresholds
  - subjective pain with NRS
  - SF36 for QOL

2/10/2015 HFA
Pain threshold lowering: enhanced sensitivity to pain measured in the laboratory
Hillberg et al. concluded that pain severity was strongly correlated to joint disease severity

• Found reduced mechanical pain threshold
• The “increased pain sensitivity” was related to the severity of clinical joint pathology
• PWH used descriptive rather than “affective” terms on SF36 to describe their function
• Showed good coping skills (mental health domains) on SF36
What we are learning about management of degenerative joint disease, osteoarthritis (OA)
For knee and hip osteoarthritis: non operative non drug treatments

All current clinical guidelines recommend:

- aerobic exercise,
- resistance exercise
- hydrotherapy and
- weight loss

Hochberg et al (ARA 2012) Arthritis Care & Research 64(4) 465-74
Clinical Review: Management of OA
Kim Bennell BMJ 2012 (A NH&MRC Centre Research Excellence in Melbourne)

• Educate patient about benefit of exercise
• Develop exercise & activity plan and vary to maintain enthusiasm
• Graded activity to manage short term exacerbation of pain
• Initiate exercise under professional supervision
... management of OA (Bennell)

- Supplement face to face patient education and motivation with other tools: internet, DVD’s etc.
- Increase **self efficacy** using behavioural techniques, diary, pedometers etc.
- Include partners and family in activity
- Monitor with periodic assessment
How to do this...?

Consult with physiotherapy for specific exercises to restrengthen after acute exacerbation of joint pain with or without a bleed

**Exercise options:**

- Swimming and or hydrotherapy
- Tai Chi: modified form
- Personalised gym exercises
- Walking if tolerated

**Overcome fear of movement (relearning)**
Improve physical health

• Exercises enhances endorphins (feel good hormones, naturally occurring)
• Exercises enhance cardiovascular function
• Exercise enhances balance (reduces falls risk)
• Exercise helps weight control
Avoiding the hazards of chronic pain

- Physical inactivity resulting in reduced fitness (cardiovascular health) strength and balance
- Mental health effects (for example depressed mood)
- Social isolation
- Relationship issues
- Disengagement from work
- Over-reliance on drugs (risk of drug dependence)
Most chronic pain sufferers experience mood disturbance

depression in 30 to 60%
anxiety
anger
insomnia (poor sleep)
Cognitions about pain, helpful or unhelpful beliefs

- Catastrophising
- Learned Helplessness
- External Locus of Control
- Acceptance
- Mindfulness for pain management
- Storytelling
- Pain self efficacy
Cognitive Behavioural Therapies are invaluable

Reviews of randomized controlled trials of treatments aimed at the self-management of chronic pain have repeatedly concluded that there is no more effective approach than those that use CBT methods

• Cognitive behavioural therapies
• Acceptance
• Mindfulness
• Together with physical therapies and education
Drugs for chronic MSK pain

Judicious use of analgesic medication supervised by those with pain medicine expertise

• *Paracetamol*

• *NSAIDS* (???-only if approved by haematologist)

• *Second line: opioids?? If other rx. fails (see next slides)*

• *Intra articular steroids (?? Evidence weak)*

• *Centrally active agents: check mood / neuropathic pain/ pain SNRI inhibitors*

• *Future ? Newer analgesics eg Nerve Growth Factor Inhibitors - - effective (but not yet safe forms)*

• *Glucosamine: placebo effect only in studies (and C/I in haemophilia)*

• *Fish Oil contraindicated in bleeding disorders*
Opiates for pain management

- Useful and effective, for short term use, in acute pain
- Use beyond 6 months is not supported by evidence
- Decision to use should be made on a case by case basis, with risk benefit analysis
- For those caught on long term opioids, Pain Medicine and or Addiction Medicine supervision is required
Opiates are a Poor Choice for Chronic Pain Management

Unwanted effects include

• narcotics addiction
• suppression of the endocrine and immune system → impotence, low testosterone
• drug tolerance which makes the drugs ineffective
• paradoxical effect: opioid-induced hyperalgesia (OIH) which magnifies the pain
• narcotics promote inactivity, blunting and lack of motivation
• risks of falls
• risks of accidental death from overdose causing suppression of the respiratory centres in the brainstem

2/10/2015 HFA
Non pharmacological strategies

..are essential ...

- Educate about the biopsychosocial nature of chronic pain and multidimensional management
- Patients actively managing their health
- Access chronic disease management programs that offer multidisciplinary team care with referrals to allied health practitioners (physiotherapy, OT, psychology)
Self Management of Chronic Pain: Strategies

Useful Strategies

- Encourage the individual patient to engage in their normal activities of daily life as much as possible
- Minimize reliance on treatment aimed primarily at brief pain relief
- Self directed self management
- Those who employ self-directed, activity-based coping strategies, who challenge unhelpful beliefs (e.g., catastrophizing) tend to experience less pain, less disability, and less depression.

Unhelpful strategies

- Engage excessively in passive treatments
- Catastrophising (unhelpful beliefs, negative perspectives)
- Pain avoidant strategies
- “Boom bust”, poor pacing
- Getting stuck psychologically (anger, blaming, rather than acceptance, adaptation)

- Developmental life experiences
Transition from adolescence to adulthood

• Adults need to provide adolescents room to be responsible for their own decisions and be accountable for the consequences of those decisions

• Even early childhood management can prepare child for adult transitions

• Transition can be challenging time to manage pain
Resources that we love!

David Butler
and
Lorimer Mosely
2003
Pain Management: For Everyone

This site contains valuable information to enable you to develop skills and knowledge in self management of your pain in partnership with your health care providers.

You will develop skills and strategies to manage your pain and develop what is called a Pain Management Strategy. You will hear from other people, just like you and learn how they too, have lived with chronic pain.

Please note: This website has relevance to those with cancer pain or receiving palliative or residential care management. However, opiates may have a larger role to play in the management of chronic pain for these people.
There are specific challenges in the haemophilia population where there is a high incidence of chronic pain and joint arthropathy. Many of the wholistic approaches of chronic pain management, as used in other areas of musculoskeletal pain, will enhance mobility and quality of life.

Pain management must be wholistic, and not just about the joint!
Acknowledgements

My patients at the Ron Sawers Haemophilia Centre in Melbourne.

My colleagues –
A/Prof. Ann Powell, Penny McCarthy & Megan Walsh, A/Prof. Huyen Tran, Prof. Alison Street, Ms. Abi Polus, Ms. Dana Boyd, Alex and Dan.