Diagnosis and assessment: patient presenting knee pain

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Presenting Complaint

Mr X is a 72 year old man who presented to the GP clinic with worsening right knee pain for the past 3 weeks.

History of Presenting Complaint

- Pain has worsened over the past 3 weeks.
- Pain is around the patella with no radiation of pain.
- Described as a constant dull ache that worsens at the end of the day after activities.
- Not relieved by any pain medication. Previous trial on NSAIDs and panadolosteo.
- Pain and movement does not improve during the day. Denies any morning stiffness.
- Complains of knee being swollen and restricting the range of movement.
- Denies any ‘ locking’ or ‘ catching’ of the knees.
- Pain has restricted his movement causing him to lose balance.
- No history of falls.
- Denies any recent injury or trauma to the knee.

Past Medical History

- Abdominal aortic aneurysm2014
- Pulmonary Fibrosis2014
- COPD – infective exacerbation2012
- GORD

Medications

Metoprolol 50mg

Panadol Osteo SR665mg

Vytorin10mg/20mg

Rabeprazole10mg

Prednisolone25mg

Allergies/ Adverse Reactions

Penicillins – skin rash

Immunisation

-VAXIGRIP provided

Family History

– nil known

Social History

- Lives alone in Collie. No support services required.
- Non-smoker. 1 standard drink several times a week.
- Limited physical activities
- No history of substance abuse

Examination

- Pleasant looking elderly man.

- Not in any obvious distress. Alert and oriented to time, place and person. Good mobility

Vitals– BP 155/88 mmHg, HR 78bpm and regular, RR 17, afebrile

Cardiovascular– Heart sound dual, nil added. JVP not elevated, all peripheral pulses are palpable

Respiratory– symmetrical rise and fall of chest with respiration, bibasal crepitations heard, no wheeze. Not in respiratory distress

Abdomen– no scars noted, abdomen soft, non tender, bowel sound present

Knee– no deformities, swelling or muscle wasting noted. No obvious signs of effusion. Bulge test and patellar tap negative. No erythema and not warm. Crepitations heard with movement of knee. Not tender on palpation.

Full range of movement with active and passive movement with pain. (extension, flexion, rotation). Ligament stability test – NAD

Investigations Ordered

– Bilateral Knee X-ray

Murtagh's Diagnostic Model

Factors in initial history / examination supporting	Factors in initial history / examination NOT	Factors in subsequent history / examination /

	diagnosis	supporting diagnosis	investigation influencing diagnosis
PROBABLE diagnosis			
	Osteoarthritis	– Swelling of the knee	Age, Chronic Pain, Asymmetrical, Weight bearing joint, Worse with movement, Crepitus on movement
	Ligament strains	– No previous injuries or trauma	Asymmetrical knee pain
Serious			

disorders

not to miss

Neoplasia – primary in bone – metastases	– No night sweats, no weight loss, no indication of previous X-ray	– constant ache day and night
Severe infections – septic arthritis	– No fever, no redness, warmth or swelling of joint. No hx of trauma	–
Vascular disorders – deep venous thrombosis – superficial thrombophlebitis	– No long periods of immobilisation – No previous hx of clots	– unilateral pain

		– Nil tenderness around muscle	
Pitfalls			
	Gout/ pseudogout	– No previous hx of gout	–
	Referred pain – back or hip	– Denies any pain of the back and hip	–
Masquerades			
	Diabetes	– No polyuria, polydipsia, Normal Fasting BSL	–
	Spinal dysfunction	–	–

Another agenda?		
Depression	–	Lives on his own, poor supportive relationship,

Management Plan (Whole person)

1. Knee pain

– RICE therapy, Weight loss

– knee X-ray

– Adequate pain management

– Referral to orthopaedic surgeons for review

– Referral to physiotherapist – strengthen quadriceps

2. Pulmonary Fibrosis/ COPD

– Prevent infective exacerbations

– Continue follow up with respiratory physicians in Perth

– Yearly influenza vaccination/ 5 yearly pneumovax

– Referral to chest physiotherapist

3. Abdominal Aortic Aneurysm

– Yearly monitoring of AAA

– Continue follow up with vascular surgeon in Perth

Preventative Health Activities

1. Nutrition – patient education on maintaining healthy diet. Referral to dietician

2. Weight – review 6 monthly to ensure BMI <25kg/m ^{2}

3. Physical activity – education on appropriate exercise routine. Referral to physiotherapist

4. Alcohol intake – reduction of alcohol intake

5. General – monitor BP 6 monthly, yearly monitoring of FBC UEC & Lipid profile

6. Cancer screening – colorectal every 2 years

7. Vision, hearing and fall risk assessment

Unable to follow up with patient as patient returned to GP in Collie while I was based in Bunbury. No access to patient's result from Bunbury.

Clinical Evidence Base

In patients with osteoarthritis of the knee (OAK), is intra-articular steroid injection more effective compared to other pharmacological treatment such as NSAIDs and glucosamine in terms of efficacy and managing pain?

Osteoarthritis is the most common joint disease affecting adults older than 65 years old. In Australia alone, osteoarthritis affects more than 1. 3million adults. [1] Osteoarthritis can significantly impact the quality of life because of the restriction in mobility caused by the pain. In osteoarthritis of the knee (OAK), the main form of treatment remains partial or total knee replacement. [4] However, there are still a large number of patients who are unable to undergo such intervention. In such patients, treatments are limited to safer alternatives such as NSAIDs, opioids, glucosamine supplements and intra-articular steroid injection.

The OneSearch UWA library database was searched and keywords used were “ osteoarthritis”, “ knee”, “ pharmacological”, “ NSAIDs”, “ steroid”. Other related terms were included in the search. One study was identified, “ short term efficacy of pharmacotherapeutic interventions in osteoarthritis knee pain by Jan Magnus Bjordal, Atle Klovning, Anne Elisabeth Ljunggren and Lars Slordal. [2]

The study is a meta-analysis of randomised placebo controlled trials with a sample study size of 14, 060 patients in 63 trials measuring pain intensity within 4 weeks of treatment and at 8-12 weeks follow up using the visual analogue scale (VAS). [2]

Results

Within 4 weeks – oral NSAIDs, pain relief measured 10. 2mm on the VAS (95% CI8. 8-11. 6). Steroid injection showed 14. 5mm (95% CI9. 7-19. 2), paracetamol 3. 0mm (95% CI1. 4-4. 7), glucosamine 4. 7mm (95% CI 0. 3-9. 1), chondroitin sulphate 3. 7mm (95% CI0. 3-7. 0). [2]

8-12 weeks follow up – oral NSAIDs and steroid injection showed decline in efficacy 9. 8mm. Paracetamol did not show change in efficacy. Glucosamine showed 3. 8mm efficacy and chondroitin sulphate showed an increase in efficacy of 10. 6mm. [2]

Strength and Weaknesses of this study:

1. Level 1 evidence based on NHMRC

2. Outcome and methods of measure was clearly explained and defined.

3. Inclusion and exclusion criteria were clear.

1. Measuring of pain intensity with the visual analogue scale (VAS) is very subjective.

2. Bias in terms of NSAIDs users selection in certain trials.

3. Comparing different treatment options by assessing separate meta-analyses for each treatment may have different baseline data and prognostic factors.

4. All steroid injection trials were performed in a fixed setting limiting their application into primary care context. Duration of trial of 4 weeks may be too short to analyse efficacy of some treatments.

Findings showed that there is better short term pain relieve when using steroid injection compared to the other treatment options. However, steroid and oral NSAIDs have the same efficacy in long term. Chondroitin sulphate also showed a minimal pain relieve in the long term.

Application– This study was done in Norway and it showed that there is minimal pain relieve by using current treatment options such as steroid injections, oral NSAIDs and supplements. Further studies should be performed to compare patients in Australia. Patients should be educated about the efficacy of such pharmacological treatment to lower their expectations. We should start reconsidering the role of these treatments in future pain management of osteoarthritis. This patient was started on many treatments that did not offer any pain relieve that corresponds to the results of the study stated above. Hence, he was referred to an orthopaedic surgeon for further review and management plan.

References

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