CORTISONE AND HYALURONIC ACID

J N Cakic, MD, PhD
FCS(SA)Orth
MMed(Orth)WITS

Centre for Sports Medicine and Orthopaedics
Fourways Life Hospital
Johannesburg, South Africa
DISCLOSURE

Consultant - Smith & Nephew
DIFFERENTIAL Dx. of HIP PAIN

- Synovial Proliferation
- Labral
- Capsule
- Extra-articular
- Infective Tumour Metabolic
- Inflammatory
- Chondral
- NON musculo-skeletal
DIFFERENTIAL Dx. of HIP PAIN

- Synovial Proliferation
- Inflammatory
- Chondral
- OA
CONSENSUS
OA and cartilage 2008, OARSI

• 25 carefully worded recommendations
• combination of: non-pharmacological pharmacological surgical modalities
CONSENSUS
OA and cartilage 2008, OARSI

12 non-pharmacological modalities:

• education and self-management
• regular telephone contact
• referral to a physical therapist
• aerobic, muscle strengthening and water-based exercises
• weight reduction
• walking aids, knee braces, footwear and insoles
• thermal modalities
• transcutaneous electrical nerve stimulation and acupuncture
8 pharmacological modalities:

- acetaminophen
- cyclo-oxygenase-2 (COX-2) non-selective and selective oral non-steroidal anti-inflammatory drugs (NSAIDs)
- topical NSAIDs and capsaicin
- intra-articular injections of corticosteroids
- hyaluronates (HA)
- glucosamine and/or chondroitin sulphate for symptom relief
- glucosamine sulphate, chondroitin sulphate and diacerein for possible structure-modifying effects
- opioid analgesics for the treatment of refractory pain
CONSENSUS

OA and cartilage 2008, OARSI

5 surgical modalities:

- total joint replacements
- unicompartmental knee replacement
- osteotomy and joint preserving surgical procedures
- joint lavage and arthroscopic debridement
- joint fusion/arthrodesis
CORTISONE INFILTRATION
CORTISONE INFILTRATION

Importance of placement of intra-articular steroid injection

- radiological guidance of injection
- 28/54, 8 joints, no hip
- small cohort

Jones A. et al, BMJ 1993
Can sonography be used to predict the response to intra-articular corticosteroid injection in primary osteoarthritis of the knee?


- US more sensitive than clinical examination
- no correlation with response to IACS
- no study related to the hip
Suppression of inflammation has been suggested as one of the most promising strategies for preventing progression in osteoarthritis.

Athia et al, Ann Rheum Dis 2011

- benefit of single cortisone injection vs. hyaluron @ 8 weeks
- benefit of US vs. fluoroscope - inflammation assessment
- small cohort
CORTISONE INFILTRATION

Intra-articular Corticosteroid Injection: Pain Relief in Osteoarthritis of the Hip?

Kullenberg B. et al. J Rheumatol 2004

- pain reduction 12 weeks
- ROM improvement in all directions
- small cohort (40)
CORTISONE INFILTRATION

Steroid Injection for Osteoarthritis of the Hip

Lambert RGW et al., Arthritis & Rheumatism 2007

- randomised, double blind, placebo controlled trial
- fluoroscopy guided
- cohort 21/31
- benefits up to 3 months
Clinical effectiveness and dose response of image-guided intra-articular corticosteroid injection for hip osteoarthritis

Robinson P. et al., Rheumatology 2007

- randomised, double blind, placebo controlled trial
- US capsule assessment
- fluoroscopy guided
- cohort 75/45
- benefits @ 12 weeks with 80mg
Intra-articular cortisone injection for osteoarthritis of the hip. Is it effective? Is it safe?

- REVIEW
- 8 trials, 4 randomized controlled trials
- short term reduction of pain
- radiological guidance recommended

DW Kruse, Curr Rev Musculoskelet Med 2008
CORTISONE INFILTRATION

Intra-articular cortisone injection for osteoarthritis of the hip. Is it effective? Is it safe?

Indications:
1. Diagnostic test - hip vs spine.
2. Diagnostic test - hip pain - intra-articular vs extra-articular.
3. Diagnostic test - pain relief before hip arthroplasty.
4. Surgical intervention contraindicated.
5. In a young patients - concern for the longevity of hip prosthesis.

DW Kruse, Curr Rev Musculoskelet Med 2008
CORTISONE INFILTRATION

Intra-articular cortisone injection for osteoarthritis of the hip.
Is it effective? Is it safe?

Key Points:

1. Lack of randomised controlled trial data.
2. Available studies support a possible short-term benefit (patients refractory to non-pharmacologic or NSAID therapy).
3. Radiological guidance is recommended.
4. Literature supports the use of musculoskeletal US to guide injection.
5. Low risk of serious adverse outcomes.
6. THR - avoid injection within 2 months of the surgery.

DW Kruse, Curr Rev Musculoskelet Med 2008
Increased Chondrocyte Death after Steroid and Local Anaesthetic Combination

Farkas B. et al., Clin Orth Relat Res 2010

• time dependent decrease of chondrocyte viability

The chondrotoxicity of single-dose corticosteroids

Dragoo JL et al., Knee Surg Sports Traumatol Arthrosc 2012

• 14 day trial - consistent chondrotoxicity
Limited therapeutic benefits of intra-articular cortisone injection for patients with femoro-acetabular impingement and labral tear

Krych A et al., Knee Surg Sports Traumatol Arthrosc 2014

- Limited clinical benefit as a therapeutic modality.
- 14 days 47% , 6 weeks 6%
- “Anaesthetic-only IA injections for patients who may be candidates for hip arthroscopy can be a useful diagnostic tool.”
Diagnostic Accuracy of Clinical Assessment, Magnetic Resonance Imaging, Magnetic Resonance Arthrography, and Intra-articular Injection in Hip Arthroscopy Patients

Byrd TJW, Jones KS, AJSM 2004

- intra-articular injection accuracy 90%
CORTISONE INFILTRATION

Home Training, Local Corticosteroid Injection, or Radial Shock Wave Therapy for Greater Trochanter Pain Syndrome

Rompe JD et al., AJSM 2009

- corticosteroid short term success
- significant decrease @ 4 months and 15 months
CORTISONE INFILTRATION
HYALURONONATES (HA) INFILTRATION
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Hyaluronic Acid
polysaccharide - family of polymers termed glycosaminoglycans.
HYALURONATES (HA) INFILTRATION

Intra-articular treatment of hip osteoarthritis: a randomized trial of hyaluronic acid, corticosteroid, and isotonic saline

Qvistgaard E et al., OsteoArthritis and Cartilage 2006

- 101 patients in prospective double blind randomised controlled trial
- 3 US guided infiltrations in 14 days intervals
- corticosteroids - significant improvement @ 3 months
- HA - non significant improvement
HYALURONATES (HA) INFILTRATION

Effect of Hyaluronic Acid in Symptomatic Hip Osteoarthritis

Richete P et al., Arthritis & Rheumatism 2009

- HA 42 vs Placebo 43
- fluoroscopic infiltration
- no difference

Ishijima M et al., Arthritis Research & Therapy 2014

- no difference in reduction of symptoms
- 5 weeks HA vs NSAIDS
- safer HA
HYALURONATES (HA) INFILTRATION

Femoroacetabular impingement: is hyaluronic acid effective?

Abate M et al., Knee Surg Sports Traumatol Arthrosc 2014

- 20 patients
- US infiltrated, day 1, day 40, 6 months
- safe and effective
- small cohort
HYALURONONATES (HA) INFILTRATION

Hylan G-F 20: Review of its Safety and Efficacy in the Management of Joint Pain in Osteoarthritis

REVIEW

Migliore A. et al,
Clinical Medicine Insights: Arthritis and Musculoskeletal Disorders, 2010:3

- 1994 - 2010
- safe and efficient in the Rx of the Knee and Hip OA
HYALURONATES (HA) INFILTRATION

Viscosupplementation with Hyaluronic Acid in Hip Osteoarthritis

REVIEW


• 1998 - 2007
• 17 studies, 11 comparative
HYALURONONATES (HA) INFILTRATION

Viscosupplementation with Hyaluronic Acid in Hip Osteoarthritis

REVIEW

CONCLUSION

VS therapy with HA is a safe and effective method in the treatment of hip OA resistant to conventional treatment modalities.
THANK YOU