Athletic Groin Pain – Application of, and Outcomes, following Fluoroscopic Guided Steroid Injections

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Introduction

All cause groin pain is a common and debilitating morbidity in sports, particularly those involving repeated kicking, directional change and twisting. Many varying treatment pathways exist however efficacy of these is poorly described and data scant, with exceptionally few examining Steroid Injections and conservative treatments alone having extremely long recovery times.

Fig. 1. Groin Injury accounts for up to 18% of all Injury in sports involving repeated kicking, jumping and turning

Materials and methods

Between August 2012 and December 2014, 59 patients, who had failed conservative management, underwent Magnetic Resonance Imaging scans followed by Fluoroscopically Guided injections in a Specialist Tertiary Referral Centre, and returned to sport as tolerated.

Injection sites were determined by Pre Procedural MRI Findings. Superior Clift sign (Rectus Abdominis Pathology) Secondary Clift Sign (Adductor Pathology) and Osteitis Pubis (Pubic Bone/Cleft Pathology).

The injections consisted of 80mg of Methylprednisolone & 2ml (0.2%) Bupivacaine. Patients were followed up for a mean of 13.2 Months post injection and outcomes were measured; Time of Return to Sport, Level of Function and Subjective Pain Scores.

Fig. 2. Groin Region anatomy, Common Sites of Groin Related Pathology

Fig. 3. Injections were placed using Fluoroscopic Guidance Technique

Results

For all cause Groin pain

Return to sport

- 84% of our Subjects (n=38) returned to full participation < 8 weeks
- 88% (n=53) returned < 6 months.

Functional Levels

- We demonstrated a minimum improvement of 2 functional levels across all participants

Subjective Pain Score

- Mean 4.7 points (SD ~ 1.9) Improvement on Subjective pain scores,
- 56% of patients (n=33) reporting complete resolution of pain at follow up,
- Only 3 Subjects had not returned at 12months Follow up.

At our mean follow up Time of 13.2 months we demonstrated 64.4% (n=38) of our patients returned to sport < 8 weeks following their injection. This was as tolerated by the patient.

At 6 months following their injection 88% (n=53) had returned and at 12 months 95% (n=56) had returned to sport.

At final follow up 3 patients had not returned to sport, and all of these reported failing a second injection.

None of our participants reported an increase in Subjective Pain Scores following injection.

- 55% (n=33) of our patients reported complete resolution of symptoms
- 37% (n=22) reporting some improvement

In total we demonstrated a mean improvement in Subjective Pain Scores of 4.7 points (SD ± 1.9).

Conclusions

Fluoroscopically Guided Pubic Symphysis injections demonstrated an increase in functionality, improved subjective pain score and a rapid return to sport in our cohort.

We believe that when compared to conservative rehabilitation protocols alone, injections are of benefit in the Athlete suffering from refractive groin pain. Furthermore this researcher believes Fluoroscopically Guided technique offers the most accurate injection technique with the least complications.

Perhaps the most important outcome of this trial is further evidence that Groin pain is not incurable, and that effective treatment pathways do exist. It is therefore the responsibility of all allied health professionals involved in Primary Care, Sports Medicine and Sports Science to be aware of the treatment options available and refer patients appropriately. This will only further our understanding and knowledge of the difficult and complicated natural history of groin dysfunction.

However much further research is necesitated in this area. Standard of data is currently quite low and with the high prevalence rates a burden of care on our shoulders to provide our patients with best possible outcomes from best evidence based practice.

Fig. 4. MRI Findings based on Sport Played

Fig. 6. Demonstrates Level of Function post procedure based on MRI Findings

There was a significant correlation (p=0.002) demonstrated between the Level of Sport played and the athlete’s return to sport time;

- 78% (n=25) of Professional and Semi Professional players returning to sport < 8 weeks
- 29% of Amateur, Recreational and Sunday League players.

Fig. 7. Level of Function Pre & Post Procedure

Level of Function at Follow up

- Functional Level returns to normality in 55% of patients. (n=33)
- 88% (n=53) of patients reporting return to sport < 6 months

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For further information

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More information on this and related projects can be obtained at https://www.rcsi.ie/surgery-research.

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References

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