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Weight bearing following intra-articular steroid injection of the knee: survey of current practice and review of the available evidence

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Abstract *Introduction* Intra-articular steroid therapy is one of the most common clinical procedures performed by rheumatologists. There is wide variation in the postoperative instructions given to patients following such injections. *Aim* The aim of this study was to determine what advice is given with regards to non-weight-bearing following steroid injections of the knee by rheumatologists, orthopaedic surgeons, and general practitioners (GPs). *Method* A questionnaire examining advice on non-weight-bearing following knee steroid injections was posted to 100 rheumatologists, 100 orthopaedic surgeons, and 50 GPs. *Results* A significant proportion of respondents advised patients to avoid weight bearing after injection (42.4%). Most of these advised patients to do so for one (16.3%) or two (25.1%) days. As compared to 57.1% of general practitioners and 2.8% of orthopaedic surgeons, 70.7% of rheumatologists advised patients to avoid weight bearing ($P < 0.05$). *Conclusion* A significant proportion of rheumatologists and general practitioners performing steroid injections of the knee advise patients not to weight-bear postinjection. Examination of the available literature fails to reveal strong evidence to support such a practice, which has potentially significant implications with regards to loss of working days, costs of mobility aids, and patient inconvenience.

Keywords Steroid · Knee · Weight bearing · Survey

Introduction

Intra-articular steroid therapy is one of the most common clinical practices performed by rheumatologists. It is

estimated that every year 1.5 million steroid injections are performed in the United Kingdom, with up to 60% of these being done in the knee. There is wide variation in the actual technique used in performing intra-articular injections. Furthermore, there is wide variation in the postoperative instructions given to patients, particularly with regards to advice about rest and weight bearing. The advice about weight bearing is important because of its potential cost implications and effect on hospital resources. If patients are advised to avoid weight bearing, they may have to take time off work and make arrangements for careers at home. Furthermore, they will have to be given crutches or other mobility aids to take home.

The aim of this study was to determine current practice with regards to advice for non-weight-bearing following intra-articular steroid injection of the knee and to examine the evidence to support such advice.

Methods

Questionnaires were posted to 100 rheumatologists who are members of the British Society of Rheumatology, 100 consultant orthopaedic surgeons identified through the 2001 Theatre guide, and 50 general practitioners (GPs) identified through the telephone directory of the Manchester Royal Infirmary. All were randomly selected. The rheumatologists and orthopaedic surgeons included are practicing throughout the United Kingdom and Ireland, whereas the GPs are practicing in the northwest region of England. The questionnaire referred to steroid injections of the knee performed in the outpatient clinic. We asked how often they administered steroid knee injections and whether they routinely advised patients not to weight-bear following intra-articular steroid injection of the knee. Self-addressed envelopes were enclosed for returning the questionnaire.

Results

Of 250 questionnaires sent, 199 were returned and 191 were completed. There were equal proportion of returns from rheumatologists, GPs, and orthopaedic surgeons. Most respondents (63.9%) injected one to five knees a week, 9.4% less than one to five, 16.8% six to ten, and 9.9% more than ten.

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Table 1. Advice with regards to weight-bearing after steroid injection of the knee given by rheumatologists, GPs, and orthopaedic surgeons in the UK. Rheumatologists advised patients to avoid weight bearing much more often than orthopaedic surgeons ($P < 0.001$, chi-squared test)

Do you advise patients to avoid weight bearing after steroid injection of the knee?	Rheumatologists ($n = 89$)	GPs ($n = 28$)	Orthopaedic surgeons ($n = 74$)	Total ($n = 191$)
Yes	70.7%	57.1%	2.8%	42.4%
For 1 day	25.8%	28.5%	–	16.3%
For 2 days	44.9%	25%	1.4%	25.1%
For 5 days	–	3.6%	–	0.5%
For 7 days	–	–	1.4%	0.5%
No	29.3%	42.9%	97.2%	57.6%

A significant proportion of respondents, 42.4%, routinely advised patients to avoid weight bearing following intra-articular steroid injections of the knee (Table 1). Rheumatologists and GPs were significantly more likely to give such advice than orthopaedic surgeons ($P < 0.05$, chi-squared test). Of the practitioners advising to avoid weight bearing, most recommended it for 1–2 days postinjection.

Discussion

Experimental studies have shown that a significant proportion of radioactive substances injected into joints leak into the blood and lymphatic system. Furthermore, low molecular weight steroids injected into joints leak into plasma faster than higher molecular weight steroids. The use of liposomes in intra-articular injections, which can be used as vectors for steroids, may prolong their retention and action within joints.

It is mainly the above observations that led to the practice of advising patients to rest and avoid weight-bearing following steroid injection of the knee. This aims at slowing the transit of steroid out of the joint, thus prolonging its local action.

However, there does not seem to be strong clinical evidence to support this hypothesis. Splintage of hands post-steroid-injection prolonged the reversal of inflammation, whereas bed rest for 3 days and subsequent walking with crutches for 3 weeks prolonged relief of symptoms, as compared to no rest after knee injection (35 weeks vs 21 weeks). In contrast, 48 h of rest in hospitalised patients after steroid injections of lower or upper extremity joints provided no additional benefit. The only prospective randomised double control trial to evaluate postinjection rest is that by Chakravarty et al. In that study, patients admitted to hospital for 24 h of bed rest had statistically significantly longer improvements in pain relief, walking distance, joint swelling, and reduction in inflammatory markers than those given no advice for rest. However, in this study, there was no assessment of the daily level of activity of patients following hospital discharge. It is recognised that rest per se can reduce acute joint inflammation. It may be that the prolonged symptomatic improvement in the rest group was due to patients in this group continuing to rest their

joints after hospital discharge for longer than the prescribed 24 h.

As seen from our service, a significant proportion of rheumatologists and GPs in the UK advise patients to avoid weight bearing for 1–2 days after intra-articular steroid injection. This practice also seems to be common amongst rheumatologists in the United States. It is interesting that, although 70.7% of rheumatologists advise non-weight-bearing, only 2.8% of orthopaedic surgeons do so. The exact reasons for this are uncertain but may be attributed to the two groups of doctors dealing with different patient populations (rheumatologists being more likely to encounter patients with acute inflamed joints secondary to rheumatoid arthritis and orthopaedic surgeons encountering patients with osteoarthritic joints).

Given that about 1.5 million steroid injections are administered annually in the UK and up to 60% of these may involve the knee, advising patients to avoid weight bearing has potentially significant implications in terms of loss of working days, costs for walking aids, and inconvenience for the patient. If such patients are admitted to hospital for bed rest postinjection, the cost to health care resources could be enormous. Examination of the available literature does not seem to support such a practice.

Suggested reading

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