Abstract

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Hyperosmolar dextrose injection for recalcitrant Osgood-Schlatter disease.

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Abstract

OBJECTIVE: To examine the potential of dextrose injection versus lidocaine injection versus supervised usual care to reduce sport alteration and sport-related symptoms in adolescent athletes with Osgood-Schlatter disease.

PATIENTS AND METHODS: Girls aged 9 to 15 and boys aged 10 to 17 were randomly assigned to either therapist-supervised usual care or double-blind injection of 1% lidocaine solution with or without 12.5% dextrose. Injections were administered monthly for 3 months. All subjects were then offered dextrose injections monthly as needed. Unaltered sport (Nirschl Pain Phase Scale < 4) and asymptomatic sport (Nirschl Pain Phase Scale = 0) were the threshold goals.

RESULTS: Sixty-five knees in 54 athletes were treated. Compared with usual care at 3 months, unaltered sport was more common in both dextrose-treated (21 of 21 vs 13 of 22; P = .001) and lidocaine-treated (20 of 22 vs 13 of 22; P = .034) knees, and asymptomatic sport was more frequent in dextrose-treated knees than either lidocaine-treated (14 of 21 vs 5 of 22; P = .006) or usual-care-treated (14 of 21 vs 3 of 22; P < .001) knees. At 1 year, asymptomatic sport was more common in dextrose-treated knees than knees treated with only lidocaine (32 of 38 vs 6 of 13; P = .024) or only usual care (32 of 38 vs 2 of 14; P < .0001).

CONCLUSIONS: Our results suggest superior symptom-reduction efficacy of injection therapy over usual care in the treatment of Osgood-Schlatter disease in adolescents. A significant component of the effect seems to be associated with the dextrose component of a dextrose/lidocaine solution. Dextrose injection over the apophysis and patellar tendon origin was safe and well tolerated and resulted in more rapid and frequent achievement of unaltered sport and asymptomatic sport than usual care.

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