ABSTRACT

Background:

Chondromalacia patellae is a common condition seen in many players like soccer players, cyclists, rowers, tennis players, volleyball players, horseback riders and runners as well as housewives. It has been synonymously used with Patellofemoral pain syndrome (PFPS). PFPS is a common condition seen among adolescents and young adults. It occurs during stressful activities when the knee bears a great amount of load. Chondromalacia patellae is the commonest condition occurring in Patellofemoral syndrome. Hence the purpose of the study was to find out whether therapeutic ultrasound therapy with exercises or patellar taping with exercises or exercises alone has a better effect on pain, muscle power, KPFS and Q angle in patients with chondromalacia patella.

Objective

To find out the effectiveness of therapeutic ultrasound therapy with exercises on pain in Chondromalacia patellae, to find out the effectiveness of patellar taping with exercises on pain in Chondromalacia patellae, to find out the effectiveness of exercises on pain in Chondromalacia patellae and to compare the effectiveness of therapeutic ultrasound, taping and exercises on pain in Chondromalacia patellae.
Methods

Subjects who fulfilled the inclusion criteria were allocated by block randomization method into Three Groups, Group A, Group B and Group C. BMI was taken of each subject. Informed consent was obtained from every subject before to their participation in the study. The subjects were instructed about techniques to be performed. A total of 180 subjects participated in the study, Group A (n=60) and Group B (n=60) Group C (n=60). Group A received exercise therapy only and Group B received ultrasound therapy and exercise and Group C received taping and exercise. Pre and post measurement of pain, function was assessed by using visual analogue scale and KPFS.

Results:

Pre and post measurement of outcome variables were assessed in all the groups. Group A post mean VAS was 4.77 with standard deviation of ±1.09 , Group B post mean VAS was 3.55 with standard deviation of ±1.77 and Group C post mean VAS score of 3.15 with standard deviation of ±1.41 which was statistically significant with a p value of 0.0001. Group A post mean KPFS was 85.23 with standard deviation of ±4.67, Group B post mean KPFS was 88.52 with standard deviation of ±6.17 and Group C post mean KPFS score of 90.50 with standard deviation of ±5.32 which was statistically significant with a p value of 0.0001. Group A post mean MMT was 4.83 with standard deviation of ±0.38, Group B post mean MMT was 4.90 with standard deviation of ±0.30
and Group C post mean MMT score of 4.85 with standard deviation of ±0.36 which was statistically significant with a p value of 0.0001.

Group A post mean Q angle was 16.15 with standard deviation of ±1.20, Group B post mean Q angle was 15.75 with standard deviation of ±1.75 and Group C post mean Q angle score of 15.98 with standard deviation of ±1.37 which was statistically significant with a p value of 0.0001.

Conclusion

Even though certain areas of the study seem controversial in the evidence obtained from the literature and the significant statistical changes obtained in this study lead us to the conclusion that in all the three groups i.e taping with exercises, ultrasound with exercises and exercises alone showed reduction in pain and improvement in function, muscle power and reduction in q angle but on comparing the three groups it was found that taping with exercises showed a better reduction in pain and an improvement in functional activities and lesser significance in muscle power and q angle when compared with the ultrasound and exercises group.

Keywords

PFPS, UST, Taping, Exercises