

Effect of Kinesiotaping vs Ultrasound Therapy in Acute Hamstring Strain Injury in Football Players

Dr. Pournima A. Pawar¹, Shruti. V. Wadekar², Dr. Ujwal. L. Yeole³

¹ Assistant professor, Tilak Maharashtra Vidyapeeth, Pune

² Intern, Tilak Maharashtra Vidyapeeth, Pune

³ Associate Professor and Principal, Tilak Maharashtra Vidyapeeth, Pune

Abstract: Football is most popular sport in the world. However football is one of the sport that have a risk of Hamstring injury. These hamstring injury can adversely affect a player's long-term in the sport. **Aim and objectives:** To find the effect of kinesiotaping vs ultrasound therapy in acute hamstring strain in football players. **Methodology:** 60 football players between the age 18-35 years (mean age 18.55+) were selected and informed consent was taken. Subjects filled Questionnaire, and special tests for hamstring injuries were done, data was collected and analysed & treated. 30 sample of Ultrasound and another 30 sample of kinesiotape included. Total 7 days of treatment given by using FASH scale & SLR. FASH scale & SLR noted according to Pre-treatment and post treatment. In the comparison of treatment between Ultrasound and kinesiotape, ultrasound treatment find to be more effective than kinesiotaping. **Results:** FASH questionnaire shows that difference in Group A post treatment 1.5890 and for Group B 1.4129, it shows that improvement in group A is more. SLR shows the result that 30 players from both group A & B were found pre treatment positive where on other side, in post treatment 0 players from group A & 11 Players from group B were positive. **Conclusion:** In this study, we concluded that conventional therapy is more effective on acute hamstring strain than kinesiotaping.

Keywords: Hamstring injury, pain, Football players, Ultrasound therapy, Kinesiotaping.

1. INTRODUCTION

Hamstring strain injuries comprise a substantial percentage of acute musculoskeletal injuries incurred during sporting activities at the high school, collegiate, and professional levels. Football players depend on the hamstring muscle to allow for quick, explosive movements. These movements can put immense pressure on the hamstring muscles. The need to change direction immediately will also exert tension of these muscles¹. A severe hamstring pull will cause a lot of pain & player may struggle to stand or walk. Most of the times it is found that players ignore their knee pain and injuries and continue their sports without consulting any medical personnel². The effect of kinesiotape on range of motion is explained by its effect on blood circulation on the taped area and this effect may create physiological change on the myofascial tissue. Another explanatory theory is that cutaneous mechanoreceptors are stimulated at the taped area thus increasing ROM. The aim of this study is to investigate the effect of kinesiotaping on hamstring flexibility and pain during hamstring stretching exercises³. Therapeutic ultrasound has been used extensively since 1955 for a variety of conditions, such as treatment of musculoskeletal pain, soft tissue injury, and joint dysfunction, including osteoarthritis, peri-arthritis, bursitis, and tenosynovitis⁴. The low dose nonthermal ultrasound is used for stimulation of tissue repair, reduction of edema, and treatment of trigger points for pain management. Specific temperature increases are required to achieve beneficial effects in tissue⁵. Stretching is suggested to increase hamstring flexibility and reduce the risk of injury. Hamstring strains are one of the most common, recurrent injuries experienced in the sporting world⁶ and often result in significant time out of sport and activity. Decreased hamstring flexibility is suggested to be one of the predisposing factors for hamstring strains and hamstring stretches are routinely used as part of a pre-exercise routine⁷.

AIM & OBJECTIVE:

Aim:

To find the effect of kinesiotaping & ultrasound therapy in acute hamstring strain in football players.

Objective:

- Effectiveness of kinesiotaping in acute hamstring strain injury in football players.
- Effectiveness of ultrasound therapy in acute hamstring strain injury in football players.

2. MATERIAL & METHOD

- **Study design:**-Comparative study
- **Study Setting:**-Playing ground
- **Target Population:**-60 hamstring strain injury patients.
- **Place Study :-** Mumbai
- **Sample Size:-**60

Procedure:-Total 60 football players aged 18-35 years were evaluated for acute hamstring injury. All players were explained about purpose of study & informed consent was taken. Subjects were asked to fill up Questionnaire (FASH), and special tests for acute hamstring injuries (SLR) were done. (Reference by Magee) All subject will be divided into 2 group i. e Group-A, Group-B.

Patient in group A will be treated by ultrasound therapy & with stretching for 4 days. While treating patient position should be prone lying & supine lying while giving stretching.

Patient in group B will be treated by kinesiotaping with ultrasound therapy & with stretching for hamstring strain. Patient position should be supine while assessing the patient & while giving stretching & ultrasound therapy to the patient. While applying kinesiotape patient position should be toe holding position. After kinesiotaping application we have to apply ultrasound for 7 min at 1.8mz 4 times a week.

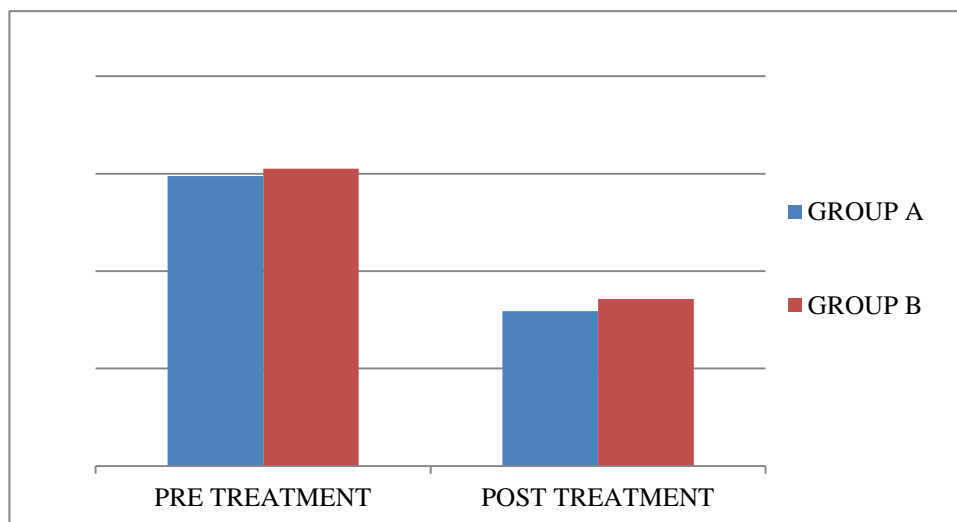
For group A 30 players has to treat with only ultrasound therapy for 7 min 4 times a week with stretching.

Comparison between the effects of Ultrasound and Kinesiotaping on Hamstring Strain Injury:

FASH

Table No. 1

	GROUP A	GROUP B
PRE TREATMENT	2.9747	3.0505
POST TREATMENT	1.5890	1.4129



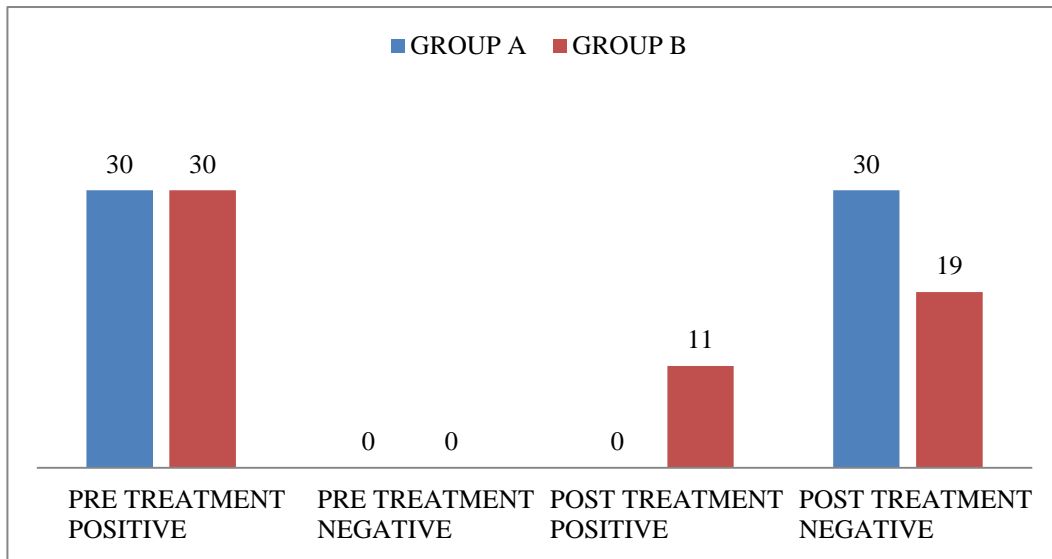
Graph No. 1

Interpretation: FASH questionnaire shows that difference in Group A post treatment 1. 5890 and for Group B 1. 4129 , it shows that improvement in group A is more.

SLR

Table No. 2

	GROUP A	GROUP B
PRE TREATMENT POSITIVE	30	30
PRE TREATMENT NEGATIVE	0	0
POST TREATMENT POSITIVE	0	11
POST TREATMENT NEGATIVE	30	19



Graph No. 2

Interpretation: 30 players from both group A & B were found pre treatment positive where on other side, in post treatment 0 players from group A & 11 Players from group B were positive.

3. DISSCUSSION

This study was aimed to compare the effects of ultrasound and Kinesiotaping on Hamstring strain. Among 30 subjects in this study, 30 subjects were given ultrasound treatment and other 30 subjects were given Kinesiotaping treatment. 30 subjects were given ultrasound , procedure of treatment explained to the patients. In total 60 samples 20 females and 40 males were given the treatment. Ultrasound therapy given for 10 mins with the ultrasonic gel. The intensity and modes was given according to the pain of the patients. Another 30 subjects were given for ten mins with the Ultrasonog + Kinesiotape. The procedure of Ultrasound therapy explained to the patients. The positions to the patients were explained. For Group A according to FASH for 1stQue mean difference was 2. 533 and for group B is 2. 300 with p<0. 0001 which considered extremely significant it shows that improvement in group A is more. For Group A according to FASH for 2ndQue mean difference was 1. 233 and for Group B is 1. 133 with p<0. 0001 which considered extremely significant, it shows that improvement in group A is more. For Group A according to FASH for 3rdQue mean difference was 1. 800 and for Group B is 1. 567 with p<0. 0001 which considered extremely significant it shows that improvement in group A is more. For Group A according to FASH for 4thQue mean difference was 2. 200 and for Group B is 1. 767 with p<0. 0001 which considered extremely significant it shows that improvement in group A is more. For Group A according to FASH for 5thQue mean difference was 2. 200 and for Group B is 1. 800 with p<0. 0001 which considered extremely significant it shows that improvement in group A is more. For Group A according to FASH for 6thQue mean difference was 2. 172 and for Group B is 2. 033 with p<0. 0001 which considered extremely significant it shows that improvement in group A is more. For Group A according to FASH for 7thQue mean difference was 1. 633 and for Group B is 1. 700 with p<0. 0001 which considered extremely significant, it shows that improvement in group A is more. For Group A according to FASH for 8thQue mean difference was 1. 633 and for Group B is 1. 700 with p<0. 0001 which considered extremely significant, it shows that improvement in group A is more. For Group A according to FASH for 9thQue mean difference was 0. 7586 and

for Group B 0.2333 with $p < 0.0001$ which considered extremely significant, it shows that improvement in group A is more. For Group A according to FASH for 10th Que mean difference was 0.3793 and for Group B is 0.7333 with $p < 0.0001$ which considered extremely significant, it shows that improvement in group A is more. 30 players from both group A & B were found pre treatment positive where on other side, in post treatment 0 players from group A & 11 Players from group B were positive. The study concluded by Özge Cinal Medeni, Gül Baltacı, Güler Dogan, in 2015 Acute effect of kinesiotape muscle technique on hamstring flexibility & pain during stretching showed that kinesiotaping improves flexibility and decreases pain when evaluated by active knee extension test and VAS. Application of kinesiotape muscle technique might be used by clinicians to improve muscle flexibility and decrease pain during stretching in acute conditions

4. CONCLUSION

In this study, we concluded that conventional therapy is more effective on acute hamstring strain than kinesiotaping.

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