PROSPECTIVE OBSERVATIONAL STUDY OF FUNCTIONAL OUTCOME OF LEUKOCYTE RICH PLATELET RICH PLASMA THERAPY FOR LATERAL EPICONDYLITIS OF THE ELBOW (TENNIS ELBOW)

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NO DISCLOSURES

BACKGROUND:

- Lateral epicondylitis, also known as ‘Tennis elbow,’ is a degenerative disorder of the common extensor origin of the lateral humeral epicondyle. The prevalence in the general population has been widely reported to range from 1% to 3% with a peak prevalence in the fifth decade.1,2 It is often associated with jobs which involve manual work and vibrating tools3 and despite the name of the condition it is rarely associated with playing tennis.1

- The mainstay of treatment is non-operative and includes watchful waiting, physiotherapy, activity modification, bracing, nonsteroidal anti-inflammatory drugs, and injections.4 There is a subgroup of patients however who do not respond to non-operative measures and require operative intervention.

- PRP and autologous whole blood have been shown to give long term improvements in patient symptoms in multiple studies7–10 with some suggesting that PRP may have a slightly more beneficial affect that autologous whole blood.7,11 Studies have shown that PRP is superior to corticosteroids in terms of improving patient symptoms3 and Gautam et al also showed tendon regeneration, in the form of improved thickness of the tendon, increase in the vascularity and improved tendon morphology on ultrasound scans.6

OBJECTIVE:

- Our Aim was to assess the effectiveness and Functional Outcome of LR-PRP injection in lateral epicondylitis of the Humerus using VAS and DASH score.

MATERIALS AND METHODS:

- We prospectively followed 238 patients out of which only 210 (Males N=98 and Females N=112) who fulfilled the inclusion criteria were included to the study.
- The study involved male or female patients with diagnosed with tennis elbow visiting our center with failed conservative treatment involving a trial of nonsteroidal anti-inflammatory drugs (NSAIDs) and physiotherapy for 3 months were treated with PRP, Prior Radiography and USG of Elbow done in all the patients .
- All the patients were subjected to one Episode of LR-PRP injection. LR-PRP Prepared using Customized PRP Kit Prepared by Ourself. We collect 21 ml of venous blood through ACD Vacutainer tube and subjected to double centrifugation and collect the final 2 ml of LR-PRP.

- Under All Aseptic Precautions Elbow Joint Scrubbed Painted and Draped. Around 1 ml of Plane 2 % Xylocaine injected to the maximum point of Tenderness over the Lateral Epicondyle. 2ml of LR-PRP Injected to Lateral Epicondyle, cyclical wrist movements done, sterile Dressing and Compression bandage applied.
- Ppatients were strictly advised not to lift weights or participate in activities that involve wrist extension.
- Functional assessment was observed by VAS and DASH score, during 1^{st} Week , 1^{st} month, 6^{th} month, 1^{st} year, 2^{nd} year and 3^{rd} year.
- At the end of 2^{nd} year Post-PRP USG advised to assess the healing of lateral epicondyle.
- Data were collected by verbal communication with patients, including their informed consent when the clinical examination was done. Blood investigations like complete blood picture (CBP), clotting time (CT), bleeding time (BT), and random blood sugar (RBS) serology were done. Written documentation of pain (VAS) and evaluation of limitation of function (DASH) was done before and after the procedure.

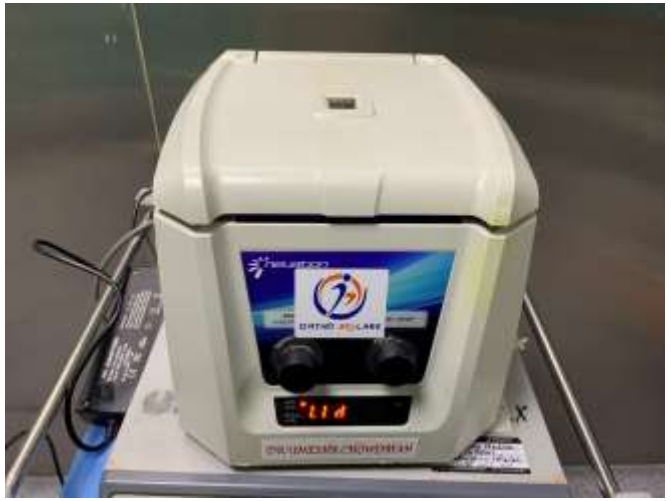
Inclusion Criteria:

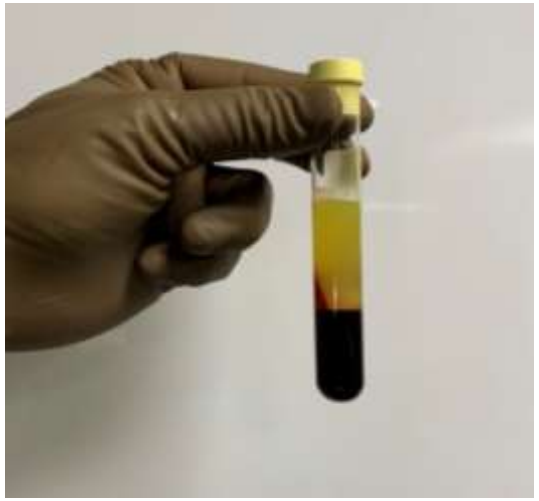
1. Pain and tenderness over the lateral aspect of the elbow.
2. One of the following tests being positive: wrist extension (Cozens test), Mill's maneuver, jar lifting test, wringing test, broom, or stir frying test.

Overall Exclusion Criteria:

1. Patients with history of anemia (hemoglobin < 10.0 g/dl).
2. Thrombocytopenia (platelets < 1,50,000/ml).
3. Pregnancy.
4. Local malignancy.
5. Local corticosteroid injections for lateral epicondylitis in previous 1 mo.
6. Rheumatoid disease and previous surgery or elbow dislocation.

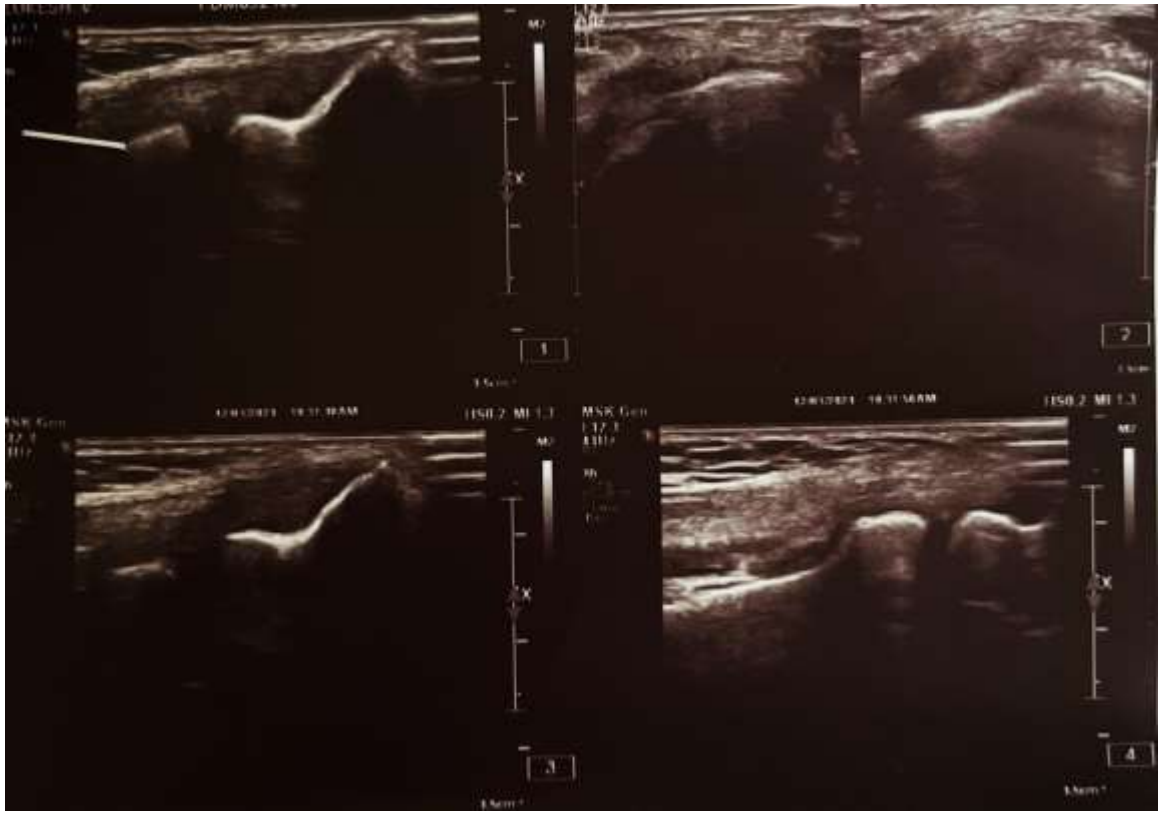
CUSTOMISED LR-PRP PREPARATION:





ULTRASOUND IMAGING:

PRE- PRP USG



POST-PRP 2 yrs. USG

RESULTS:

Patients outcomes were followed for up to 36 months, totally 210 patients were followed till the end mean age group of 43.6. The mean pre-PRP VAS score was 9.6, during the first week of follow-up mean VAS score was 9.2 during which advised rest and cold pack application. At the end of one month mean VAS score was 6.4, at the end of 6^{th} month mean VAS score was 2.3, at the end of 1^{st} year mean VAS score was 1.2, at the end of 2^{nd} and 3^{rd} year mean VAS score was 1.0 and 0.8 respectively. When the mean VAS score of pre-PRP status was compared with the recent follow-up that is 3^{rd} year follow-up (9.2 to 0.8) there is significant improvement in the VAS score. With P value (<0.001). No significant complication occurred in any patients.

CONCLUSION:

We consider LR-PRP injection, for lateral epicondylitis of the elbow, Is not only a safe but also very effective treatment option in reducing the Pain and Improving the Activity.

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