

# Efficacy and Safety of Vocal Cord Platelet-rich Plasma (PRP) Injection in Patient with Intractable Vocal Cord Disease

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## Objectives

Presbylarynx, Sulcus vocalis and vocal cord (VC) scar was well known intractable VC disease, which were difficult to treat until these days. Platelet-rich plasma (PRP) is a platelet concentrate that has been widely used in a variety of clinical applications based on its high level of growth factors. The aim of this study is to verify the effectiveness and safety of VC PRP injection to intractable VC disease.

## Methods

18 patients with intractable VC disease (presbylarynx 8, sulcus vocalis 4 and, VC scar 6) were enrolled in this study. Blood samples were drawn from patients and PRP was isolated through centrifugation and separation of the samples. Under local anesthesia, about 0.5cc PRP was injected into VC via cricothyroid membrane using fiberoptic laryngoscope by a single laryngologist. Treatment outcomes were evaluated 1 and 3 months after the procedure, including stroboscopic evaluation, acoustic analysis and Voice Handicap Index (VHI).

## Results

55.5% of the patients reported subjective improvements after PRP injection. Stroboscopic finding showed that 38.8% patient observed improvement of mucosal wave. In acoustic analysis, Shimmer and NHR was significantly improved ( $p=0.021$ ,  $p=0.002$ , respectively) but jitter showed weak significance ( $p=0.17$ ). VHI scores were also significantly improved after injection, total score of preVHI was  $37.4 \pm 18.8$  and postVHI was  $22.6 \pm 16.2$  ( $p=0.015$ ). Complications associated with the VC PRP injections, such as hematoma, infection, granuloma formation were not observed during the follow-up period.

## Conclusion

VC PRP injection in patients with intractable VC disease may have effectiveness in voice quality improvement without complication. VC PRP injection can be used as an alternative treatment modality for intractable VC disease.

## Keywords

Vocal cord, Platelet rich plasma (PRP), Intractable vocal cord