

Kambin's Triangle Approach for Percutaneous Transforaminal Epidural Adhesiolysis With Inflatable Balloon Catheter; A Pilot Study

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Background: Spinal stenosis is a common condition for elderly people, but there are so many patients who are not responsive to conventional treatments. Percutaneous epidural adhesiolysis can relieve nerve root compression and deliver drugs effectively. Recently, it is reported that percutaneous transforaminal epidural adhesiolysis using inflatable balloon catheter can reduce patients' pain and improve functional capacity. We would like to figure out the effectiveness and significance of Kambin's trianglular approach as well as traditional safety triangular approach in percutaneous transforaminal epidural adhesiolysis using inflatable balloon catheter.

Method: 24 patients with chronic L5 unilateral radiculopathy who did not respond to conventional treatment were enrolled. They were divided into two groups; safe triangle approach group and Kambin's triangle approach group. The success rate of the procedure was assessed by dividing each patient into three categories (B, D, F); category B (Ballooning): the instrument enters the target area and the contrast medium spreads after the balloon is inflated; category D (Dye spread): failed in balloon inflation but success in adhesiolysis and spread of contrast media; category F (Fail): failed in balloon inflation and adhesiolysis. Both NRS and ODI were also recorded at three times; before the procedure, one month and three months after the procedure. Basic patients' demographic data were recorded.

Results: There was no difference in characteristics of patients between the two groups (Table 1). The success rate of the procedure was 80 % in safe triangular approach group, and 90 % in Kambin's triangle approach group (Table 2). NRS at 3 months after the procedure showed statistically significant decrease and there was no significant difference between two groups (Table 3). ODI at 3 months after the procedure also showed statistically significant decrease and there was no significant difference between two groups either (Table 4).

Conclusion: For patients who have difficulty in safe triangle approach when performing percutaneous transforaminal epidural adhesiolysis, Kambin's triangle approach can be an alternative option. A randomized, controlled, double-blind, multi-center study should be followed.