Percutaneous treatment of degenerative disc disease with radiopaque gelified ethanol (Discogel); Initial experience in Iran

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Introduction:
Minimally-invasive treatments of degenerative disc disease are becoming more popular. Various intradiscal procedures have been introduced since many years ago, with variable and inconsistent outcome. Chemical neucleolysis has been performed using multiple chemical substances including Chymopapain and alcohol with limited success. Discogel, a new similar substance composed of ethanol mixed with Ethylcellulose and Radiopaque material, has been recently introduced with promising results. In this study, we try to present our initial experience with intradiscal injection of Discogel in Iranian patients, to evaluate its efficacy and safety.

Methods:
Since August 6th 2014 until December 31th, we have started our experience with Discogel in five centers in Tehran, Iran. 100 Patients with symptomatic lumbar or cervical disc herniation who failed conservative non-surgical treatment, were included into the study. Protruded and extruded herniated disc without sequesteration, with disc height more than 50% of the initial height, Pfirrman grading of III or IV, with radicular symptoms more prominent than axial symptoms. 0.5 to 0.6 milliliters of Discogel in cervical discs and 0.8 to 1.6 milliliters in lumbar discs was injected under controlled fluoroscopic/ CT scan guidance using standardized techniques.

Results:
100 patients were injected, aged 20-78 (mean=44.4±9.7). There were 71 Lumbar and 29 Cervical cases. This was the first intervention for all patients except for 3 of them that had a history of previous operation in another levels. The procedure lasted from 15 to 90 minutes depend on the number of levels that must be injected, and the whole admission took from 3 to 24 hours. Median VAS score was 10 before injection, which dropped to 5 at 1 week post-injection, and 0 at 1 month post-injection. Only 3 patient reported significant remaining pain at 1 months of follow-up that underwent operation intervention. No complications were noted.

Conclusion:
Initial results were promising, indicating more than 96.5% good and very good results. This preliminary study shows efficacy and safety of Discogel intradiscal injection in selected cases. Further long-term follow-up is needed to evaluate the results.