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Multiple versus single ultrasound guided suprascapular nerve block in treatment of frozen shoulder in diabetic patients

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Background: Suprascapular nerve block (SSNB) is used with increasing frequency by anesthetists and rheumatologists in the management of frozen shoulder.

Objective: To compare between single and multiple (nine) SSNB in the treatment of diabetic frozen shoulder.

Patients & Methods: Type 2 diabetic patients with frozen shoulder divided into 2 equal groups. Patients in group 1 were subjected to single SSNB. Patients in group 2 were subjected to multiple (nine) SSNB 3 times per week. Participants will be assessed clinically and by ultrasound at baseline and after 3 weeks and 4 months.

Results: At assessment points (3 weeks & 4 months), there was a significant improvement of all clinical & ultrasound parameters in both groups in comparison with the base line parameters ($p \leq 0.001$). But the improvement in the multiple injection protocol was significantly better than the improvement in the single injection protocol was used.

Conclusion: Course of multiple (nine) injections for suprascapular nerve block gave a better outcome than a single injection for suprascapular nerve block.

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Leptin improves the locomotion recovery of spinal cord injury

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Spinal cord injury (SCI) causes long-term disability and has no effective clinically treatment. The initial trauma always results in permanent functional impairment and severe disability followed by secondary injury mechanism, which is characterized by increased inflammation, glial scarring and neuronal cell death. Leptin (a glycoprotein) could induce the activation of Janus kinase (JAK2)/signal transducers and activators of transcription-3 (Stat3) pathway via leptin receptor. In vivo, we discovered the intraperitoneal injection of leptin improved the locomotion recovery of spinal cord injury. Then, we researched the neuro-protective and anti-inflammatory role of leptin on the spinal cord neurons and astrocytes. In the cultured neurons, we discovered leptin administration could enhance the expression of caveolin-1, block the composition of P2X7R-Panx1 complex and reduce the damage to neurons induced by ATP or by modeling operation of SCI. Even without injury operation, the pretreatment with leptin could suppress neuronal Ca^{2+} imaging triggered by ATP in spinal cord of live transgenic mice. In the cultured astrocytes, we discovered that: 1) the chronic administration of leptin could suppress the release of AA and PGE2 stimulated by ATP from the cultured spinal cord astrocytes; 2) leptin could elevate the expression of caveolin-1 through JAK2/Stat3 signaling pathway; 3) the increased caveolin-1 blocked the conjunction between Src and EGFR; 4) our results highlight leptin as a promising therapeutic agent for SCI.

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