Sesamoid nerve block

To determine the proximal diffusion distance of radiopaque contrast medium and mepivacaine/methylene blue solution and incidence of inadvertent intrasynovial and intravascular injections of modified sesamoid nerve block (MASB) when compared with traditional plantar nerve analgesia techniques of the equine distal hind limb.

Sample: Ex vivo model: 18 hind limbs; and in vivo model: 5 horses in a crossover study.

Methods: In the ex vivo model, a mepivacaine/methylene blue solution was used to compare the diffusion distance between MASB, basisesamoid block (BSB), and traditional low plantar block (TLPB). Ten minutes after injection, skin was dissected and proximal diffusion distance of the dye patch was measured. In the in vivo model, both hind limbs were injected with radiopaque contrast medium with either MASB or TLPB. Ten minutes after injection, a radiograph was acquired and the proximal diffusion of the contrast medium patch was measured.

Results: In the ex vivo model, solution proximal diffusion distance for MASB was significantly longer than BSB ($P < .050$) and significantly shorter than TLPB ($P < .050$). Both techniques reached the proximal aspect of DFTS similarly ($P = .289$), and no difference in the incidence of intrasynovial or intravascular injections was observed ($P = .292$). In the in vivo model, contrast medium proximal diffusion of MASB was significantly shorter than TLPB ($P < .050$). The proportion of injections that diffused subcutaneously to the proximal aspect of the proximal pouch of the DFTS was not significantly different between techniques ($P = .136$). No difference in the incidence of DFTS intrasynovial or intravascular injections was observed ($P = .305$).

Clinical relevance: MASB presented significantly more proximal diffusion than BSB and less proximal diffusion than TLPB, consistently reached the proximal aspect of DFTS, and presented a very low risk of intrasynovial and intravascular injections [1)].

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Estrada RJ, Alvarado GJ, Vargas A, Vargas J, Vargas D, Chacón R, Razquin P, Vindas R. Modified abaxial sesamoid nerve block provides enhanced proximal diffusion compared to basisesamoid block and lower proximal diffusion than traditional low plantar nerve block in equine hind limbs: ex vivo and in vivo study. J Am Vet Med Assoc. 2023 Aug 29;261(12):1804-1809. doi: 10.2460/javma.23.04.0212. PMID: 37643724.