통증 및 근골격재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Effect of adductor canal block on medial compartment knee pain in patients with knee osteoarthritis

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Objective

To identify the efficacy of ultrasound-guided adductor canal block (ACB) as a therapeutic option for refractory anteromedial knee pain owing to knee osteoarthritis (KOA)

Methods

Seventeen patients with anteromedial knee pain owing to KOA were randomly allocated to either ACB group (n=8) or placebo group (n=9). Inclusion criteria were (1) patient with anteromedial knee pain for at least 3 months and diagnosed with osteoarthritis by physical examination and X-ray, (2) at least or above 45 years, and (3) grade of Kellgren-Lawrence grading scale 2 to 4 of osteoarthritis. Exclusion criteria were (1) presence of other obvious knee pathology, such as a fracture, infection or rheumatic diseases or (2) prior surgery to the knee. In ACB group, ultrasound-guided ACB was performed in the medial side of thigh by 1% lidocaine 10ml. In placebo group, 1% lidocaine 1ml injected to the sartorius muscle. The primary outcome was visual analog scales (VAS) for knee pain intensity compared for pre-, and 4 weeks post-injection. The secondary outcome were Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), the timed up and go test, numbers of analgesic ingestion per day and opioid consumption per day compared for pre-, and 4 weeks post-injection.

Results

There are no significant differences in baseline characteristics of patients between two groups. At 4 weeks post-injection, ACB group shows significant difference on VAS compared to control group ($P<0.05$). However, WOMAC, the timed up and go test, numbers of analgesic ingestion per day and opioid consumption per day do not show significant difference. And there were no adverse events reported such as bleeding, infection, cellulitis, or weakness.

Conclusions

To our knowledge, this is the first prospective study to assess the efficacy of ACB for patients with KOA. ACB may be an effective and safe treatment option for patients who are either unresponsive or unable to take analgesics.

Table 1. Baseline characteristics of patients

	ACB group (n=8)	Control group (n=9)	*P* value
Age, yr	76.0±8.6	68.4±10.5	.148*
Sex, men:women	2:6	1:8	>.999**
Duration of symptoms, years	8.5±4.7	9.4±6.9	>.999*
Body mass index, kg/m^2	25.3±5.7	27.1±6.9	.743*
Kellgren-Lawrence grade, 2:3:4	0:4:4	2:2:5	.257**
Site, right:left:both	0:1:7	2:0:6	.215 **
VAS score	6.8±1.0	7.3±0.9	.305*
WOMAC	57.8±15.2	55.0±10.1	.413 *
No. of analgesic ingestion per day	1.8±1.8	1.8±2.0	.843*
Opioid consumption per day, mg	10.6±21.8	34.4±99.7	.949 *
Timed up and go test, sec	24.2±13.7	17.6±12.4	.351*

Values are expressed as mean ± standard deviation except sex, Kellgren-Lawrence grade and site which are expressed as n.
ACB = adductor canal block, VAS = visual analogue scale, WOMAC = Western Ontario and McMaster Universities Arthritis Index.
* Wilcoxon rank sum test for between-group comparison (*P*<.05).
** Chi-square test for between-group comparison (*P*<.05).
† n=7, due to one person could not testable

Table 2. Changes of outcome measurements

	ACB group (n=8)	Control group (n=9)	*P* value*
VAS score	**4.4±1.8**	**7.1±1.5**	**.006**
WOMAC	48.5±18.5	50.7±14.6	.810
No. of analgesic ingestion per day	1.9±1.8	1.8±2.0	.805
Opioid consumption per day, mg	10.6±21.8	33.5±99.9	.949
Timed up and go test, sec	22.9±13.2†	17.3±12.4	.536

Values are expressed as mean ± standard deviation.
ACB = adductor canal block, VAS = visual analogue scale, WOMAC = Western Ontario and McMaster Universities Arthritis Index.
* Wilcoxon rank sum test between-group comparison (*P*<.05).
† n=7, due to one person could not testable