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LONG-TERM METHADONE THERAPY FOR CHRONIC PAIN PATIENTS

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Opioid therapy for chronic pain of non-malignant etiology has remained controversial mainly due to the fear of dependence. This study examines the feasibility of adding methadone to a pain management program in this patient population.

Patients who had been on methadone maintenance for at least 6 months were studied retrospectively and then followed prospectively for 3 years. They had been placed on methadone having remained incapacitated by pain despite extensive therapy including a 3 week inpatient pain management program. Methadone was prescribed in divided doses on a continuous, time-contingent basis after therapy for additional medical/psychiatric illnesses and pain management strategies had been optimized. To avoid tolerance the dose was generally limited to 20 mg of methadone per day. Patients were evaluated before, immediately after starting methadone, and in about 3 month intervals. Pain relief was assessed by a 4-step hierarchy of categorical scaling. Only data obtained immediately after starting methadone (point 1), at the end of the retrospective phase (point 2), and at the end of the prospective period (point 3) are reported (± 1 standard deviation). Standard statistical analysis was used, a 95% confidence level was accepted as significant.

There were 34 patients (17 female) with a mean age of 49.2 ± 11.2 years. The majority (27 patients) suffered low back/leg pain. The mean duration of pain was 8.2 ± 5.4 years, and the mean number of operations for pain was 2.5 ± 1.6 (0-6). There was no significant difference in demographic data between gender. The mean duration of opioid therapy at point 2 was 2.5 ± 1.3 (0.5-4.8) years. The daily mean methadone dose was 13.9 ± 4.8 (10-20) mg at point 1, 16.4 ± 12.6 (4-80) mg at point 2, and 18.3 ± 8.7 (10-40) mg at point 3. There was no significant difference in dose between the three points, or in doses for gender, primary or psychiatric diagnoses. Patients reported adequate though variable pain reduction after the addition of methadone: 0-24% (4 patients), 25-49% (9 patients), 50-74% (15 patients), and 75-99% (6 patients). All wished to continue with methadone therapy. Similar pain relief was maintained throughout the retrospective period. Twenty-three patients continued on methadone therapy through the prospective period; of those 3 reported less, 1 more, and the remainer unchanged pain reductions. On intermittent discontinuation of methadone for monitoring of effectiveness, pain usually doubled but no abstinence symptoms were observed. Seven patients were lost to follow-up and in 4 patients narcotic therapy was discontinued.

During the retrospective phase, the methadone dose had been increased in 2 patients: they continued on higher doses but reported less pain relief. During the prospective phase the dose was increased in three additional patients: in one patient, the drug was later discontinued without difficulty because of ineffectiveness, one continued on the higher dose with increased pain reduction, and one continued to take additional doses for pain exacerbations. One patient increased the dose on his own; he suffered mild withdrawal symptoms, was counselled, and continued on methadone without incident. Only one patient was suspected of not taking methadone as prescribed, if at all; his medication was discontinued. There was no evidence of psychological dependence, even in the two patients who continued on higher doses and were suspected of physical dependence. No major side effects were observed throughout both study periods.

Methadone safely reduces chronic pain when incorporated into a pain management program. Given under medical supervision, there seems little risk of developing psychological dependence. By limiting the dose tolerance can be avoided and long-term treatment becomes feasible.

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Title: **Axillary brachial plexus block : single or multiple injections ?**

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The level of incomplete block is approximatively 35% when axillary plexus block is performed by a single local anesthetic injection (1,2). Selective multiple injections may reduce this level to 10% (3).This study compares the result of a single injection versus 3 selective injections.

METHODS: After approval of the local ethics commitee and patient's informed consent, 60 patients undergoing upper limb surgery were premedicated with flunitrazepam 1 mg orally and randomly assigned to group S (single) or group M (multiple injections). All blocks were performed by residents under supervision of the first author. The nerves were located on the arm abducted to 90° by insulated needle 3.5 cm long (Vygon) and a nerve stimulator (Bard 750) delivering 0.5 mA pulse every second. Lidocaine 1.5% with adrenaline 1:200,000 was used : 10 mg.kg-1 in patients weighing less than 60 kg and 600 mg in others. In group S, needle was inserted after axillary artery palpation as proximally as possible until a maximum movement of patient's hand was obtained; the entire dose of lidocaine was then injected with digital pressure applied behind the needle. In group M, 3 movements were successively obtained : one from the median (Me) or the ulnar nerve (Ul), one from the radial nerve (Ra), one from the musculocutaneous nerve (Mc). Me or Ul received half the total lidocaine dose, Ra and Mc each received one quarter dose. Sensory and motor blockades were graded according to Vester-Andersen criteria 30 min after injection (1). Peroperative pain was graded as 0= no pain, 1= little pain, 2= need for IV analgesic or local infiltration, 3= general anesthesia.Patients who were not given general anesthesia were asked postoperatively for their opinion on the anesthesia. Comparison were made using Fisher's exact probability test or Student t test (* =p<0.05).

RESULTS:	Group S (n=30)	Group M (n=30)
Time spent to perform the block (min)		
(mean ±SD)	4 ± 2	12 ± 4 *
Lidocaine total dose (mg)	585 ± 25	556 ± 65
Sensory blockade (anesthesia or analgesia)		
complete	13 (43%)	26 (87%)*
incomplete	15 (50%)	4 (13%)
total failure	2 (7%)	0
Nerve blockade (anesthesia or analgesia)		
median	27 (90%)	30 (100%)
ulnar	24 (80%)	30 (100%)*
radial	16 (53%)	27 (90%)*
musculocutaneous	17 (57%)	28 (93%)*
medial cut. forearm	29 (97%)	30 (100%)
medial cut. arm	28 (93%)	30 (100%)
axillary	2 (7%)	1 (3%)
Complete or strong motor blockade	15 (50%)	28 (93%)*
Peroperative pain		
0	14 (47%)	25 (83%)*
1	6 (20%)	2 (7%)
2	4 (13%)	0
3	6 (20%)	3 (10%)
Patients satisfied with anesthesia technique	23/24	27/27

DISCUSSION: Selective multiple injections raise the frequency of complete blockade and lessen peroperative pain because of higher frequency of Ra and Mc blockade. This technique may be preferred when Ra or Mc sensory areas are implicated in surgery.

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