Regional Anesthesia and Pain

The treatment of chronic pain in Québec: a study of hospital-based services offered within anesthesia departments

[Le traitement de la douleur chronique au Québec : une étude des services en milieu hospitalier offerts par les départements d'anesthésie]

Yves Veillette MD,*† Dominique Dion MD MSc,§ Nadège Altier PhD,*‡ Manon Choinière PhD*‡¶

Purpose: Little or no information exists on the services that are currently available for the treatment of chronic pain across the different regions of Canada. As a first step, this study documented the hospital-based resources and services offered for the management of chronic non-cancer pain within anesthesia departments in Québec.

Methods: In collaboration with the Association of Anesthesiologists of Québec and the Société québécoise de la douleur, a provincial survey was conducted to assess the availability of services for chronic pain management within hospital-based anesthesia departments along with the volume of clinical activities, staff composition, treatments offered and space facilities.

Results: The response rate was 100%. Fifty of the 69 departments (73%) offered services for the management of chronic non-cancer pain but the services were often limited. Twenty-six percent (13/50) of the departments provided some form of multidisciplinary assessment and treatment but only three had a core team comprised of an anesthesiologist, a nurse, a psychologist, and a physical therapist. Examination of patient waiting lists of the surveyed departments revealed disturbing results: approximately 4,500 patients were waiting for their first appointment to see a pain consultant, and nearly 3,000 (67%) had been waiting for nine months or more.

Conclusion: Although this survey did not include the services offered in departments other than anesthesia, the results show the extent to which the province of Québec is under-resourced for the management of chronic pain patients both in terms of access to treatment and quality of the services offered.

Objectif : *Peu ou pas d'informations existent sur les services actuellement offerts pour le traitement de la douleur chronique à travers le Canada. Comme première étape, nous avons vérifié les ressources et les services offerts par les départements d'anesthésiologie du Québec.*

Méthode : *En collaboration avec l'Association des anesthésiologistes du Québec et la Société québécoise de la douleur, une enquête provinciale a été menée pour évaluer l'accessibilité aux services de traitement de la douleur chronique dans les départements d'anesthésiologie des hôpitaux de même que le volume d'activités cliniques, la composition du personnel, les traitements offerts et l'espace alloué pour la dispensation des services.*

Résultats : *Le taux de réponse a été de 100 %. Cinquante des 69 départements (73 %) offraient des services de traitement de la douleur non cancéreuse, mais ils étaient souvent limités. Vingt-six pour cent (13/50) des départements assuraient une certaine forme d'évaluation et de traitement multidisciplinaire, mais trois seulement avaient une équipe de base comprenant un anesthésiologiste, une infirmière, un psychologue et un physiothérapeute. L'examen des listes d'attentes des départements sondés a donné des résultats troublants : environ 4 500 patients étaient en attente d'une première évaluation et près de 3 000 (67 %) attendaient depuis neuf mois ou plus.*

Conclusion : *Même si l'enquête n'inclut pas les services offerts par des départements autres que l'anesthésie, les résultats montrent à quel point les ressources pour le traitement de la douleur sont limitées au Québec, tant au niveau de l'accessibilité que de la qualité des services offerts.*

From the Department of Anesthesia, Faculty of Medicine, Université de Montréal;* the Pain Clinic, Hôpital Maisonneuve-Rosemont;† Research Centre, Centre Hospitalier de l'Université de Montréal;‡ the Department of Family Medicine, Faculty of Medicine, Université de Montréal,§ and Research Centre, Montréal Heart Institute,¶ Montréal, Québec, Canada.

Address correspondence to: Dr. Manon Choinière, Institut de Cardiologie de Montréal, Centre de Recherche - Secteur Roulottes, Bureau R2231, 5000 Bélanger, Montréal, Québec H1T 1C8, Canada. Phone: 514-376-3330, ext. 2042; Fax: 514-593-2160; E-mail: manon.choiniere@icm-mhi.org

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CHRONIC pain in Canada is a significant health problem. Based upon the most recent data provided by Statistics Canada[1] and by Moulin *et al.*,[2] between 18% and 29% of Canadian adults experience chronic pain. These data also show that the prevalence of chronic pain increases significantly with age.[1,2] An important study[3] commissioned by the Alberta Ministry of Health and Welfare projected an increase of 70% over the next 25 years in the number of Albertans (> 15 yr old) who will develop chronic pain problems with this increase being primarily due to aging of the population.

Regardless of cause, the effects of chronic pain on the life of the sufferers and their families can be devastating. It will often have a profound effect on the patients' mood, their social relationships and health-related quality of life. Several studies[4–8] reported that chronic pain is associated with an increased prevalence of anxiety or depressive disorders, especially amongst those who experience significant limitations in their daily activities due to pain (e.g., work, social activities, family life).[4,6] Sleep disturbance, fatigue, and decreased overall functioning are also commonly experienced.[9–13]

A closer examination of the data from Statistics Canada[1] revealed that pain affected daily life activities in 74.8% of the chronic pain sufferers (> 19 yr). In Moulin *et al.*'s study,[2] nearly half of the respondents with chronic pain reported that their condition prevented them from attending social or family events whereas 58% were unable to carry out their usual daily activities at home.

Chronic pain is costly not only to the patient but also to society as a whole. In the United States, Turk *et al.*[14] estimated that the combined direct and indirect costs of chronic pain exceed $125 billion US per year. Still in the United States, it has been estimated that the costs and incapacities due to low back pain alone among the age group of 18 to 55 yr (the most active of the workforce) are greater than those due to cancer, cardiovascular diseases, brain stroke, and AIDS altogether.[15] In Québec and elsewhere in Canada, the exact costs of chronic pain are unknown but they are believed to be enormous in terms of provision of health care services, loss of productivity, and disability payments.[1,2]

Despite decades of research in the field of pain treatment, chronic non-malignant pain continues to be under-treated or mistreated,[2,9,16] with a large number of patients going from doctor to doctor seeking pain relief, only to finally move outside mainstream medicine in their desperation.[17,18] A certain proportion of the chronic pain population is managed through specialized pain treatment facilities. However, little or no information exists on the services that are currently available in these types of facilities across the different regions of Canada. As a first step, this study assessed the hospital-based resources and services offered for the management of chronic non-cancer pain in the province of Québec. As hospital-based specialized pain clinics are traditionally run by anesthesiologists in this province, this study documented the services offered in every department of anesthesia of the Québec hospitals providing acute care for the adult population.

Methods

Data collection

Between June 2002 and February 2003, a questionnaire was sent by mail to the anesthesia department heads at all acute care hospitals in Québec excluding pediatric hospitals. The hospital centres that did not have any permanent anesthesiologists on duty were also excluded. The questionnaire was accompanied by a letter explaining the goals of the study as well as a letter of support from the Presidents of the Association des anesthésiologistes du Québec (AAQ) and the Société québécoise de la douleur (SQD). In the first section of the questionnaire, the participants were asked if their department offered services for the treatment of 1) acute pain, 2) chronic non-cancer pain, and/or 3) cancer pain. Only those who reported treating patients with chronic non-cancer pain were invited to complete the rest of the questionnaire and to provide a detailed description of their services. The questionnaire was filled out by the anesthesiologist in charge of these services or one of his/her close collaborators. Follow-up letters, telephone contacts and personal clinician-to-clinician conversations were used to ensure maximum response rate. Upon reception of the questionnaire, a research nurse carefully reviewed all items to ensure that each question had been answered. Telephone interviews were carried out to collect missing or unclear information.

Assessment material

The questionnaire was developed by the study investigators who all had clinical and/or research experience in the field of chronic pain management. Input and comments from the President of the SQD and different anesthesiologists were also taken into consideration during the preparation of the assessment material. Prior to the start of the study, the questionnaire was pilot-tested in two hospitals in Montréal, and questions were reviewed for clarity as appropriate. The questionnaire was mostly composed of closed ques-

tions (multiple-choice and yes/no questions) with few open questions requiring single-phrase answers. The items included in the questionnaire[A] covered: 1) the organizational structure of the services offered for chronic pain management, 2) the clinical activities in terms of volume of patients (approximate number of new cases and follow-up visits per month), types of pain problem treated, and waiting list, 3) treatment modalities offered and/or available within the institution, and 4) teaching and research activities.

Data analysis

Data collected in this study were analyzed with standard descriptive statistics using the Statistical Package for Social Sciences - version 9.0 (SPSS Inc., Chicago, IL, USA).

Results

Availability of the resources

Sixty-nine departments of anesthesia meeting the study selection criteria were identified in Québec. All of them returned the completed questionnaire, thus providing a 100% response rate. Among these departments, 73% (50/69) reported that they offered services for the management of chronic pain but these varied considerably. Not all departments (37/50; 74%) offered follow-up visits for the treatment of chronic pain patients. Twenty-six percent of the departments (13/50) reported providing multidisciplinary services for the assessment and treatment of chronic pain. Eight of them were located in large urban centres. Only three departments, two of which were located in large university-affiliated hospitals, reported operating a chronic pain management service with a core staffing level of at least one anesthesiologist, one nurse, one psychologist, and one physical therapist.

Clinical activities

In the 50 departments that offered chronic pain treatment services, the total number of new cases was around 800 patients per month across the province. When the patients coming for follow-up visits were included, the volume of patients increased to approximately 4,500 patients per month. The three types of chronic pain problems encountered most frequently across the province were low back pain followed by complex regional pain syndrome, and neuropathic pain. Examination of the patient waiting lists revealed that approximately 4,500 new patients were waiting for their first appointment at the pain service. The number of patients who were waiting nine months or more to be evaluated reached 2,950 which represented more than two thirds (67%) of the patients on the waiting lists.

Involvement of anesthesiologists

In total, 160 anesthesiologists across the 50 departments were involved in the treatment of chronic pain in the adult population. They represented 29% of the total number of active anesthesiologists in the province at the time of the survey (n = 553; unpublished data from the AAQ, 2002). The majority (100/141; 71%; missing data = 19) spent less than eight hours per week treating chronic pain whereas only 4% (5/141) spent 20 hr or more per week. Nearly 13% of the anesthesiologists involved in the care of chronic pain patients (20/155; missing data = 5) had completed a fellowship in this specialty. Other specialties such as rheumatology, general practice and psychiatry were also involved in some clinics but the present study did not document their activities as the focus was on departments of anesthesia.

Treatment modalities offered by anesthesiologists

In addition to pharmacotherapy, different techniques were offered by anesthesiologists to treat chronic pain (Table I). Epidural injections were used in every department. Most anesthesiologists also used the following procedures: stellate ganglion blocks (92%), peripheral nerve blocks (90%), trigger point injections (88%), *iv* regional blockade (82%), caudal blocks (74%), tendon sheath or intra-capsular injections (60%), and lumbar sympathetic blocks (52%).

Staff composition

In 21 of the 50 departments (42%) that offered pain management services, anesthesiologists could be assisted by the services of a respiratory care therapist during interventions. One or more nurses were involved in the treatment of chronic pain patients in 35 departments (71%), the number of hours worked varied from a few hours per week to one or more full-time equivalent nurses. Table II lists the activities performed by the nurses working in these 35 departments. As shown, the nurses working in nearly all the departments were involved in providing assistance during the techniques (91%) and in post-intervention supervision (94%). In about one third of the departments, the nurses were also involved in patients' assessment and teaching/education activities.

The services of a psychologist were available and integrated within the pain clinic in only 13% of the depart-

A Copies of the questionnaire used in this study are available on request.

TABLE I Interventional techniques used in the 50 anesthesia departments involved in the treatment of chronic pain patients

Interventional techniques	*n (%)*
Epidural	50 (100)
Stellate ganglion block	46 (92)
Peripheral nerve block	45 (90)
Trigger point injection	44 (88)
Intravenous regional blockade	41 (82)
Caudal block	37 (74)
Tendon sheath or intra-capsular injections	30 (60)
Lumbar sympathetic block	26 (52)
Intra-articular injection	25 (50)
Paravertebral block	24 (48)
Alcoolisation - phenolisation	16 (32)
Botulinic toxin injection	13 (26)
Intrathecal pump	9 (18)
Spinal cord stimulation	6 (12)
Thermocoagulation	4 (8)
Cryotherapy	3 (6)

TABLE II Activities performed by the nurses in the 35 departments where nurses were reported to be involved in chronic pain management

Activities	*n (%)*
Evaluation of patients	12 (34.3)
Teaching and education	12 (34.3)
Assistance during the techniques	32 (91.4)
Post-intervention supervision	33 (94.3)
Other	2 (5.7)

ments (6/47; missing data = 3). The waiting time for a consultation with the psychologist varied from one clinic to another, ranging between one week and three months. The types of psychotherapy offered also varied and included support therapy, cognitive therapy, biofeedback, self-hypnosis, and/or relaxation training. Three clinics offered specific psychology programs tailored for outpatient management of chronic pain.

The number of anesthesia departments where physiotherapy services were available on site, i.e., within the pain clinic, was also quite small (5/50; 10%). Consultation delay varied from zero to three months. Four of these five clinics offered a special outpatient physiotherapy program (2–3 hr/week over 7.5–11 weeks) to patients suffering from certain pathologies (low back pain, musculoskeletal pain). No department had an occupational therapist or a social worker integrated in its treatment team.

With respect to secretarial support, 44% of departments (22/50) offering treatment to chronic pain patients had access to such a service.

TABLE III Access to physical facilities among the 50 anesthesia departments involved in the treatment of chronic pain patients

Physical facilities	*n (%)*
Access to a fluoroscopy apparatus*	
Yes, relatively easily	22 (44.9)
Yes, but with difficulty	16 (32.7)
No	11 (22.4)
Access to an operating room†	
Yes, relatively easily	31 (64.6)
Yes, but with difficulty	14 (29.2)
No	3 (6.3)
Hospitalization possibility†	
Yes, relatively easily	22 (45.8)
Yes, but with difficulty	14 (29.2)
No	6 (12.5)
Not requested	6 (12.5)

*One missing data; †Two missing data.

Space facilities

Among the departments of anesthesia providing services for chronic pain management, 52% (26/50) had consultation and treatment rooms specifically designated for the evaluation and follow-up of the patients. The remaining (24/50; 48%) had to use the recovery room to meet the patients. Table III presents the details regarding access to physical resources such as fluoroscopy apparatus, operating rooms, and hospital beds.

Discussion

This study was designed to document the resources available for the management of adult chronic pain patients in the departments of anesthesia of all acute care hospitals in Québec. Among the 69 departments identified, 73% reported offering some sort of services for the treatment of chronic non-cancer pain. A total of approximately 800 new patients were evaluated per month and, if we add those seen for follow-up visits, the provincial volume of clinical activities exceeded 4,500 patients per month. However, it was striking to see that as many patients (~ 4,500) were waiting to be seen by a pain consultant in the above hospital-based departments at the time of the survey. Even more disturbing was the fact that two thirds of these patients had been waiting for nine months or more.

Although this survey did not include the services offered in departments other than anesthesia or those in rehabilitation centres or private clinics, these results suggest that the province of Québec is underresourced in terms of access to chronic pain treatment. Although it may not be the case in other provinces, specialized pain treatment facilities are traditionally

run by anesthesiologists in Québec. Resources are available in other medical specialties but the number is believed to be relatively small based upon the long waiting lists seen in pain clinics run by anesthesiologists. The waiting delays imposed on chronic pain patients who are referred to specialized treatment facilities in Québec are unacceptable in view of the devastating human consequences of uncontrolled pain and its enormous costs. Considering that a good number of chronic pain patients may not be referred to specialized pain clinics because their treating physicians are well aware of the long waiting lists, these results probably represent only the tip of the iceberg in terms of the lack of access to services for chronic pain management in Québec.

Based upon the results of this survey, the types of services offered to adult chronic pain patients by the departments of anesthesia in Québec vary considerably from one hospital to the other. These services are often limited to a nerve-block clinic and only a few offer a comprehensive multidisciplinary approach. Of all the surveyed anesthesia departments having chronic pain treatment services, only 26% provide some form of multidisciplinary assessment and treatment for this type of disorder, and only three have a core team comprised of an anesthesiologist, a nurse, a psychologist, and a physical therapist. Thus, the province of Québec is not only under-resourced in terms of access to specialized treatment for chronic pain, but when the pain is treated, it is not done in the most effective manner, i.e., using a multidisciplinary approach.

Although not every chronic pain patient requires the services of health care professionals from different specialties,[19] many patients do require the expertise of multiple disciplines to manage their complex pain condition.[20,21] Because of its deleterious consequences on patients' psychological and physical functioning, pain is only one of the many issues that must be addressed in the management of these patients. Single modalities of treatment are rarely sufficient to treat chronic pain.[9,22] For many patients, interventions that only target nociception without addressing the patients' psychological well-being and social stresses are unlikely to be effective on a long-term basis. The salient feature of a multidisciplinary pain management approach is to offer a comprehensive evaluation, treatment and a cohesive team approach. This team is composed of health care professionals from several disciplines, each of whom is specialized in different aspects of pain management. Treatment may include pharmacotherapy and interventional techniques along with psychosocial interventions, vocational counselling, and physical therapy. This rehabilitative model is considered the optimal therapeutic paradigm for many chronic pain sufferers and is recommended by various organizations and associations such as the International Association for the Study of Pain.[23] Clinical practice guidelines developed by the College of Physicians and Surgeons of Alberta, Manitoba, New Brunswick, and Ontario also endorse the use of a multidisciplinary approach for the treatment of chronic pain.[24–27]

In 1992, Flor *et al.*[28] conducted a meta-analysis to evaluate the efficacy of multidisciplinary treatments for chronic pain. Their results suggest that patients treated in multidisciplinary pain clinics show improvements in pain, psychological functioning, and interference compared to patients treated by conventional unimodal approaches or to untreated patients. Patients attending a multidimensional pain clinic were also nearly twice as likely to return to work and used the health care system less frequently than patients in the remaining study groups. More recently, Ospina and Harstall[29] analyzed and synthesized the literature findings from different systematic reviews and meta-analyses and concluded that the evidence for the effectiveness of multidisciplinary programs is strong for chronic low back pain, moderate for chronic pelvic pain, and inconclusive for fibromyalgia, widespread pain, neck pain, and shoulder pain.

Taken together, the results of this study suggest that chronic pain in Québec is not only managed ineffectively due to the scarce availability of well-structured multidisciplinary pain clinics but is also widely left untreated due to the long waiting lists. Various factors including the paucity and the lack of organized resources can explain the situation. For example, minimal space is often allocated to the hospital departments offering chronic pain treatment services. As shown in this study, nearly half of the anesthesiologists were forced to use the recovery room and did not have designated consultation and treatment rooms to meet with the patients. This lack of space strongly limits, of course, the possibility of expanding services. Human resources in these days of shortage of anesthesiologists in the province is certainly another important reason but it is not the only one. Chronic pain is commonly viewed as a difficult health problem to deal with, and several physicians may be reluctant to be involved in this type of treatment if not supported by a multidisciplinary team.

Another limiting factor is the remuneration of the anesthesiologists in Québec when working as pain clinicians. Although there are no official provincial statistics, it is estimated that the average fees for services of an anesthesiologist for one day of work spent in a

pain clinic represent approximately 70% of those gained from the equivalent amount of time spent in the operating room (OR). If alternate payment plans are chosen, the earnings may be increased but will rarely reach those for time spent in the OR. This problem coupled to the other factors described above might account for the findings that the percentage of anesthesiologists treating adult chronic pain patients in Québec is not very high (29%), that the majority of them spend less than eight hours per week, and that only 4% of them spend 20 hr or more per week performing this activity.

That the management of chronic pain remains unsatisfactory is probably not unique to Québec. We are now in the process of carrying out a survey to describe and analyze the services that are currently offered by anesthesiologists and other medical specialties in public and private multidisciplinary pain treatment facilities in every Canadian province. Further research is also needed to better document the adverse human and economic consequences of inadequate treatment of chronic pain in our country and elsewhere in the world. This information is crucial for helping policy makers and health administrators to understand and formulate a better and more cost-effective way to deliver health services to chronic pain patients.

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