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Editorial

Acute Pain Service an Open and Challenging Issue

Boaz G Samolsky Dekel[1,2]*

[1]*Department of Medicine and Surgery Sciences, University of Bologna, Italy*

[2]*Anesthesiology and Pain Medicine Unit, Azienda Ospedaliera-Universitaria di Bologna, Policlinico S. Orsola-Malpighi, Bologna, Italy*

***Corresponding Author:** Boaz G Samolsky Dekel, Department of Medicine and Surgery Sciences, University of Bologna and Anesthesiology and Pain Medicine Unit, Azienda Ospedaliera-Universitaria di Bologna, Policlinico S. Orsola-Malpighi, Bologna, Italy.

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Postoperative pain (POP) is often untreated or undertreated and may lead, aside patients' dissatisfaction, to subsequent acute postsurgical complications as well as to chronic pain syndromes.

Commonly the term 'Acute Pain Service' (APS) is referred to an in-house healthcare-team organization dedicated to the management of acute POP in surgical patients. Ideally such organization goals are to apply, monitor, adjust, study and ameliorate congruent perioperative analgesia treatments in order to optimize perioperative outcomes. While the original idea and corner stone of the traditional APS was a multidisciplinary collaboration to successfully interface between the patient and other healthcare professionals engaged in the postoperative care [1], often it was the anesthesiologist, by virtue of his/her specific knowledge of pain pathophysiology and expertise in the management of acute pain, who pursued the implementation and coordination of the APS [2]. Over the years recommendations to improve the quality of POP management have specified that efforts must move beyond assessment and communication of pain to implementation and evaluation of improvements in pain treatment that are timely, safe, evidence based, and multimodal [3]. Indeed, evidence from the literature has shown that suitable POP control requires both the application of an appropriate analgesia methods along with continuous supervision and adjustment of its therapeutic effects.

The first suggestion to create a specialized team to manage acute pain appeared in an anonymous editorial published in 1976 by the Australian Anesthesia and Intensive Care journal [4]. Almost ten years later, in 1985, a group of anesthesiologists from the Washington University School of Medicine implemented the first anesthesiologists-based acute-pain-service in the USA and coined the abbreviation APS [5]. Their goals were: 1) to improve postoperative analgesia; 2) to train anesthesiology residents in methods of postoperative pain management; 3) to apply and advance new analgesic methods; and 4) to carry out clinical research in the area of postoperative pain management. At the same year, a group of anesthesiologists from the University Hospital of Kiel established the first APS in Germany [6].

In the following years various healthcare institutions commenced to develop and to implement guidelines and protocols for POP management, and the APS became mandatory in many key hospitals worldwide. In 1988, the first guide lines for POP management were introduced in Australia, and subsequently in the United Kingdom (1990) and in the USA (1992) [7]. At the same time, the International Association for Study of Pain (IASP) also recommended the constitution of an APS in every hospital. Practice guide lines for acute pain management were for the first time offered by the American Society of Anesthesiologists Task Force in 1995 (revised in 2004 and 2012) [8]. Subsequently, also the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) has introduced acute pain management as an essential element for the accreditation of American hospitals [9]. Nevertheless, it became soon obvious worldwide that implementing and maintaining an APS is strongly dependent upon local economic availabilities and socio-cultural aspects within different countries, healthcare systems and hospital structures.

Consequently, different organizational models of APS have been proposed. While the analysis of these models goes beyond the goals of this editorial it is worthwhile to underline that some models have privileged the development of analgesia protocols, pain evaluation charts, informed patients approach and updating of the medical personnel; other models privileged nursing job organization by improving abilities in pain evaluation, identification of the patients' needs and how to face inadequate analgesia and its adverse effects.

It was the experience of Rawal, from 1994 on, at the Orebro Medical Center Hospital in Sweden, that firmly pointed out that only through the development of a suitable cost-effective organizational model can POP control be optimized [10]. He described a "low cost" model of APS as opposed to a "high cost" one. The former is nurse-based anesthesiologist-supervised model based on the provision of in-service training for nursing staff, optimal use of appropriate analgesia methods, regular recording of the patient's pain intensity and of treatment efficacy on a bedside vital-sign chart with prompt treatment of uncontrolled pain. Thus, the Acute Pain Nurse interfaces between the patient and the anesthesiologist in charge of the whole process. In the "high cost" model the APS, with similar objectives, is implemented by medical (consultants or residents) personnel.

The literature regarding POP control recommend multimodal analgesia and increasing indication for moving from intravenous to regional analgesia techniques. Moreover, as more surgical procedures are now implemented at the outpatient setting, postoperative pain control is becoming increasingly more challenging. Accordingly, terms like multidisciplinary approach and multimodal analgesia are becoming more and more frequent in POP-control guidelines. Nonetheless, under-treatment of POP continues to be a major problem internationally. While the development and application of new analgesic drugs or technologies are welcome, it is the development of an appropriate organization that utilizes existing expertise along with continuous patients' monitoring that should be the core of an effective APS. Indeed, evidence suggests that the introduction of such organization reduces patients' pain intensity, increases patients' satisfaction and improve surgical outcomes. Although the number of hospitals with an APS is increasing, the literature is unclear about its optimal structure, staffing, and function and how to find the balance between the ongoing scientific progress and economic constrains. Innovative analgesia protocols may be of no use if there is nobody to control their implementation and effectiveness in the perioperative settings and to intervene when adjustments are needed or when medical (e.g. side effects) or technical (e.g. epidural catheter displacement or infection) issues occur. Indeed, suitable POP control requires both the application of an appropriate pain therapy and the continuous supervision ad adjustment of its therapeutic effects.

In summary, Gaps between evidence for POP control and clinical practice may be due to lack of continuous analgesia, lack of assessment, healthcare provider education biases and limited healthcare resources. A coordinated approach to healthcare provision, from staff education to the best use of available resources, is required to improve practice. Acute pain management is a dynamic field, with ongoing changes in our understanding of pathophysiological mechanisms, ability to assess the severity of pain and its impact on outcomes, and the availability of new treatment strategies. Up to-date, accessible, evidence-based guidelines provide only one measure to achieve improvements in clinical practice as well as to design local POP control protocols. Yet, when applying these protocols, organizational issues are as important [11]. The future of the APS should be based upon applying the local most suitable organizational model having the patient as the center of the whole POP control process. Patients' education and continuous monitoring, improving postoperative analgesia, training nursing and medical personnel in methods of postoperative pain management, applying advanced multimodal analgesia methods and carrying out clinical research in the area of POP management and organization are the cornerstones of a cost-effective APS.

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