

Should we feel free to use loco-regional anesthesia in multiple sclerosis?

Neurological and neuromuscular diseases are a challenging field for anesthetists and often the topic is included in the category of unusual comorbidities, even in well-established and comprehensive manuals.^[1] Multiple sclerosis is a progressive autoimmune disease characterized by demyelinating areas in the brain and the spinal cord. The physiopathologic aspects of the disease are unclear, as are the effects of therapeutic treatments. The course of the disease is punctuated by remitting neurological symptoms often followed by stable deficits and by growing disability over time. During pregnancy, the rate of relapse is 3 times higher than in non-pregnant sufferers and though not common, anesthetists should be ready to care for pregnant women with multiple sclerosis, at least in the U.S., Canada and Northern Europe.^[2] All types of anesthesia and perioperative stress are implicated in the relapse of the disease, but multiple sclerosis may relapse as the result of a variety of events and conditions other than the choice of anesthetic technique. Surgery, delivery, stress, shortness of sleep, fever and infection all participate in a possible relapse. This makes it difficult to determine the precise reason for a relapse in this clinical setting. Today, when Anesthetists are required to be completely safe in their practices, many professionals may feel forced to choose between the need to apply general anesthesia, which is considered safer for patients with multiple sclerosis and techniques that fit better with the actual procedure, such as loco-regional for a caesarean section. Multiple sclerosis is a paradigmatic example of how, even with a well-established procedure such as general anesthesia, it may be opportune to reappraise loco-regional anesthesia for patients with multiple sclerosis, a subject of considerable debate. Beginning with a case reported in 1988 by Levesque *et al.*^[3] loco-regional anesthesia has been considered harmful for patients affected with multiple sclerosis, likely because of the “double crush phenomenon” described by Hebl *et al.*^[4] Several recent reviews and case reports have found loco-regional anesthesia, particularly epidural anesthesia, to

be safe from the point of view of inducing relapse of the disease, even after a long follow-up. However, because of the lack of large prospective trials there is, will likely always be, insufficient evidence to support such an approach as common practice.^[5,6]

In this issue of the Saudi Journal of Anesthesia, the group of Sethi and Kapil add a new case report on safe loco-regional anesthesia in an obstetric patient with multiple sclerosis to the recent literature.^[7] The paper offers a useful review of the current literature in the field and suggests the use of an epidural catheter to administer low dose bupivacaine and morphine as adjunctive therapy. Interestingly and confirming their expectations, the patient did not experience any complication related to the technique and had a follow-up period of 4 months free from neurological deficits. This elegantly conducted case underscores the need for research in this field and may constitute a starting point for reducing local anesthetic dosages. Another relevant point in anesthetic management research is the possibility of following patients who have undergone anesthesia for longer than the simple hospital stay, as in this case report, because the critical points in anesthesia management are slowly shifting from the operating room to the consequences of our practice in wards and in “life after the hospital.” Obviously, a single case report offers limited evidence, but given the difficulty of conducting a prospective clinical trial with an adequate number of patients, we need cases from which to collect inductive evidence from clinical practice.

In conclusion, because practicing anesthesia in multiple sclerosis (and more so in parturients with the disease) is a slippery path, the current literature and this case report by Sethi and Kapil, suggest that anesthetists may now have sufficient evidence for using loco-regional anesthesia in this setting.

Gennaro Martucci

Department of Anesthesia & Critical Care, ISMETT (Mediterranean Institute for Transplantation and Advanced Specialized Therapies), Palermo, Italy

Address for correspondence:

Gennaro Martucci
Department of Anesthesia & Critical Care, ISMETT (Mediterranean Institute for Transplantation and Advanced Specialized Therapies), Palermo, Italy
E-mail: gennaro.martucci@libero.it

Access this article online	
Quick Response Code:	Website: www.saudija.org
	DOI: 10.4103/1658-354X.136383

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How to cite this article: Martucci G. Should we feel free to use loco-regional anesthesia in multiple sclerosis?. *Saudi J Anaesth* 2014;8:313-4.

Source of Support: Nil. **Conflict of Interest:** None declared.

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