

Analgesic Efficacy of Ultrasound-Guided Interscalene Block versus Supraclavicular Block for Ambulatory Arthroscopic Rotator Cuff Repair: A Comparative Study

Julien Cabaton, MD†, Laurent Nové-Josserand, MD†, Luc Mercadal, MD*, Thierry Vaudelin, MD†.

† Hôpital Privé Jean Mermoz – Centre Paul Santy, Lyon – France

* Hôpital Privé Claude Galien, Quincy sous Sénart - France

Background and Objectives: Ultrasound-guided interscalene block (ISB) or supraclavicular block (SCB) can be used to control pain after upper limb day surgery. We compared the efficacy of these two techniques in patients undergoing ambulatory arthroscopic rotator cuff repair (ARCR).

Methods: We conducted a prospective, randomized, single-blind, non-inferiority study. Ambulatory ARCR patients were randomly allocated (1:1 ratio) to receive a single injection of either SCB or ISB, plus general anesthesia. All patients received a postoperative analgesia prescription for home use before leaving hospital (including fast-acting morphine sulfate). Patients completed a telephone questionnaire on days 1 and 2 post-surgery. Primary endpoint was morphine consumption (in mg) during the first 2 days post-surgery. Secondary criteria included the duration of motor and sensory blockade, and satisfaction with treatment.

Results: The per protocol (PP) population included 103 patients (SCB=52, ISB=51) (57% male, median age 58 years, 16% had a body mass index >30 kg/m²). Mean morphine consumption in the 48 h following surgery was 9.4 mg and 14.7 mg in the SCB and ISB groups, respectively (difference of -5.3). The upper limit of the 95%CI was <30 mg, demonstrating non-inferiority of SCB compared to ISB. No difference was observed between the two groups regarding the duration of motor or sensory blockade. Both treatments were well tolerated. Overall, 98% of patients in the SCB group and 90% in the ISB group were satisfied with their treatment.

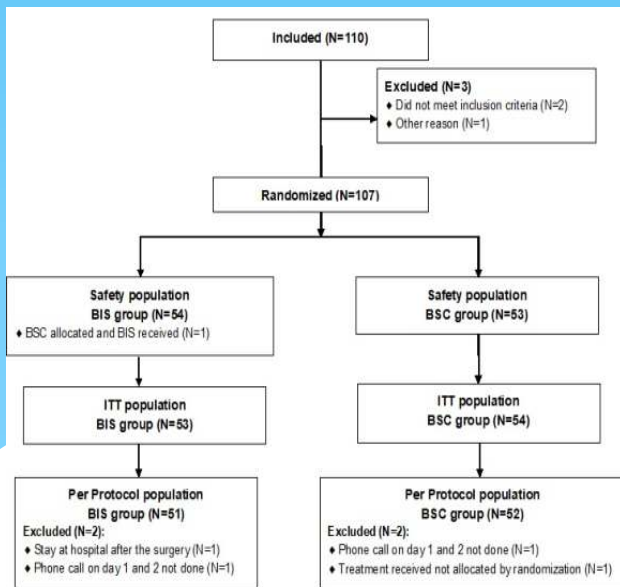


Table 2. Opiate consumption and pain scores in the two groups on days 1 (D1) and 2 (D2) post-surgery, and pain block duration

	Per protocol population		
	SCB group (N=52)	ISB group (N=51)	Total (N=103)
Opiate consumption D1 (mean ± SD)	5 ± 9	9.2 ± 1.3	7.1 ± 11
Opiate consumption D2 (mean ± SD)	4.4 ± 7	5.5 ± 8	5 ± 7
Pain score D1 (mean ± SD)	3.3 ± 3	3.4 ± 3	3.3 ± 3
Pain score D1, n (%)			
No pain or pain not important (<4)	31 (60)	27 (53)	58 (56)
Intense pain (≥4)	21 (40)	24 (47)	45 (44)
Pain score D2 (mean ± SD)	2.8 ± 2	3.4 ± 3	3.1 ± 2
Pain score D2, n (%)			
No pain or pain not important (<4)	34 (65)	27 (53)	61 (59)
Intense pain (≥4)	18 (35)	24 (47)	42 (41)
Duration of motor block (h), median (IQR)	20.8 (14-24)	20.3 (18-24)	20.6 (15-26)
Duration of sensory block (h), median (IQR)	19.7 (14-22)	20.3 (14-23)	19.9 (14-23)

Conclusions: SCB is as effective as IBS in terms of postoperative analgesia in patients undergoing ambulatory ARCR.

Clinical Trial Registration: ID-RCB 2016-A00747-47.

