Declarations of interest

SGM is a director on the boards of the American Society of Regional Anesthesia and Pain Medicine (ASRA) and the Society of Anesthesia and Sleep Medicine (SASM). He is a one-time consultant for Sandoz Inc. and Teikoku, and is currently on the medical advisory board of HATH. He has a pending US Patent application for a Multicatheter Infusion System (US-2017-0361063). He is owner of SGM Consulting, LLC and co-owner of FC Monmouth, LLC. None of the above relations influenced the conduct of the present study. All other authors declare that they have no conflicts of interest.

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Self-citation policies in anaesthesiology journals

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Keywords: anaesthesiology; bibliometrics; citations; journal impact factor; journal policies; self-citation

Editor—Compulsory self-citation and artificial self-promotion represent poor publishing practice.[1,2] Self-citations may be divided in author and journal self-citations (A-SC and J-SC, respectively). Although these are not related to each other, both should be considered during the review process.

The most common approach to define A-SC is counting as self-citation each time the article is cited by one of its co-authors. It has been estimated that each A-SC generates 3.65 additional citations over 10 yr.[3] Although some self-citations are certainly inevitable, inappropriate A-SC and 'citation farms' (clusters of authors citing themselves) create spurious citation metrics. As these metrics are taken into account for examinations, grants etc., this practice cannot be considered academically honest.

Excessive J-SC is another practice (unrelated to A-SC) resulting from inappropriate editorial requests to quote articles previously published in their journal in order to increase their impact factor (IF).[4] The J-SC is reported as:where the numerator represents the *delta* IF (contribution of self-citations to IF).

$$\text{JSC rate} = \frac{\text{IF} - \text{IF without self citations}}{\text{IF}}$$

Among proposed solutions to restrict self-citation practice is implementation of related policies. We conducted an observational investigation to describe the presence of policies for limiting A-SC and overall J-SC among anaesthesiology journals.

Table 1 Anaesthesiology journals according to their rank in Journal Citation Reports 2019. For each journal we provide: journal rank and full title, impact factor (IF), and IF without self-citation (SC), Journal Self-Citation Rate (2019), publisher name, and presence and description of policies on limiting SC (and any cut-off). Each journal name contains a hyperlink to its instruction to authors/submission guidelines.

Journal rank and full title		IF	IF without SC	J-SC rate 2019 (%)	Publisher	Policy (cut-off)	Policy description
1	*Anesthesiology*	7.067	6.461	8.6	Lippincott Williams & Wilkins, Philadelphia, PA, USA	✓	Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged
2	*Regional Anesthesia and Pain Medicine*	7.015	5.852	16.6	WB Saunders Co.-Elsevier Inc., Philadelphia, PA, USA	–	
3	*British Journal of Anaesthesia*	6.880	5.925	13.9	Oxford University Press, Oxford, England	✓	Please avoid inappropriate and/or excessive self-citations, Appropriate self-citations are welcome
4	*Journal of Clinical Anesthesia*	6.039	5.118	15.3	Elsevier Science Inc., New York, NY, USA	–	
5	*Anaesthesia*	5.739	4.258	25.8	Wiley-Blackwell Publishing, Malden, MA, USA	✓	Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged
6	*Pain*	5.483	4.923	10.2	Elsevier Science BV, Amsterdam, The Netherlands	–	
7	*European Journal of Anaesthesiology*	4.500	3.994	11.2	Lippincott Williams & Wilkins, Philadelphia, PA, USA	–	
8	*Anesthesia and Analgesia*	4.305	3.827	11.1	Lippincott Williams & Wilkins, Philadelphia, PA, USA	–	
9	*Canadian Journal of Anesthesia*	3.779	3.05	19.3	Springer, New York, NY, USA	–	
10	*European Journal of Pain*	3.492	3.202	8.3	Elsevier Science Ltd, Oxford, England	–	
11	*Pain Physician*	3.251	2.611	19.7	Am Soc Interventional Pain Physicians, Paducah, KY, USA	✓ (30%)	References from a single journal or a single author must be limited to 30% of total references which includes Pain Physician and primary author references. Journal Checklist: 'Make sure 30% or fewer references from same journal or author'
12	*Journal of Neurosurgical Anaesthesiology*	2.928	2.12	27.6	Lippincott Williams & Wilkins, Philadelphia, PA, USA	–	
13	*Clinical Journal of Pain*	2.893	2.763	4.5	Lippincott Williams & Wilkins, Philadelphia, PA, USA	–	
14	*Perioperative Medicine*	2.740	2.68	2.2	BMC, London, England	–	
15	*Anaesthesia Critical Care & pain Medicine*	2.707	2.325	14.1		–	

Continued

Table 1 Continued

Journal rank and full title		IF	IF without SC	J-SC rate 2019 (%)	Publisher	Policy (cut-off)	Policy description
					Elsevier France-Editions Scientifique Medicals Elsevier, Issy-les-Moulineaux, France		
16	*Pain Medicine*	2.513	2.26	10.1	Wiley-Blackwell Publishing, Malden, MA, USA	–	
17	*Minerva Anestesiologica*	2.498	1.614	35.4	Edizioni Minerva Medica, Turin, Italy	–	
18	*Pediatric Anesthesia*	2.311	1.983	14.2	Wiley-Blackwell Publishing, Malden, MA, USA	–	
19	*Current Opinion in Anesthesiology*	2.276	2.19	3.8	Lippincott Williams & Wilkins, Philadelphia, PA, USA	–	
20	*Journal of Cardiothoracic and Vascular Anesthesia*	2.258	1.418	37.2	WB Saunders Co.-Elsevier Inc., Philadelphia, PA, USA	–	
20	*Pain Practice*	2.258	2.188	3.1	Wiley, Hoboken, NJ, USA	–	
22	*Journal of Clinical Monitoring and Computing*	2.108	1.57	25.5	Springer Heidelberg, Heidelberg, Germany	✓	Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged
23	*Acta Anaesthesiologica Scandinavica*	2.050	1.79	12.7	Wiley-Blackwell Publishing, Malden, MA, USA	–	
24	*International Journal of Obstetric Anesthesia*	1.895	1.579	16.7	Elsevier Science Ltd, Oxford, England	–	
25	*BMC Anesthesiology*	1.695	1.584	6.5	Springer Nature	✓	Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged
26	*Journal of Anesthesia*	1.628	1.471	9.6	Springer Tokyo, Tokyo, Japan	✓	Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged
27	*Anaesthesia and Intensive Care*	1.539	1.357	11.8	Australian Soc Anaesthetists, Australia	–	
28	*Anaesthesist*	1.025	0.754	26.4	Springer Heidelberg, Heidelberg, Germany	–	
29	*Schmerz*	0.964	0.718	25.5	Springer Heidelberg, Heidelberg, Germany	–	
30	*Revista Brasileira de Anestesiologia*	0.867	0.805	7.2	Elsevier Science Inc., New York, NY, USA	–	
31	*Anesthesiologie & Intensivmedizin*	0.840	0.585	30.4	Aktiv Druck & Verlag GmbH, Ebelsbach, Germany	–	
32	*Anestesiologia Intensivmedizin Notfallmedizin Schmerztherapie*	0.531	0.504	5.1	Georg Thieme Verlag KG, Stuttgart, Germany	–	

On July 15, 2020, we evaluated the presence of policies for discouraging A-SC among anaesthesiology journals with an IF according to *InCites Journal Citation Reports 2019* (Clarivate Analytics®; https://jcr.clarivate.com/JCRJournalHomeAction.action).[5] When a policy was reported, we evaluated if a self-citation cut-off was proposed. Simultaneously we gathered from InCites the values of IFs (with or without self-citations) and calculated J-SC rate accordingly. Continuous variables are presented as median (25th–75th percentile), and categorical variables as number and percentage. The Mann–Whitney *U*-test for unrelated samples was performed separating journals according to the presence of policies regarding self-citations. Tests were two-sided; $P<0.05$ was considered statistically significant.

We found 32 anaesthesiology journals with journal IF. Table 1 describes J-SC rates and the presence of policies for limiting A-SC. Seven journals (22%) discouraged 'excessive and inappropriate' self-citations, but only one (*Pain Physicians*) reported a cut-off for self-referencing.

J-SC rate was variable (1.4–37.2%), with a median 8.4% (2.2–16.7%). The J-SC rate was not different between journals with or without policies on self-citations: 8.6% (3.2–19.7%) *vs* 8.3% (2.2–16.6%), respectively ($P=0.86$). Journals with policies on self-citations had similar IF (3.3% [1.7–6.9%]) as compared with journals without (2.5% [1.7–3.6%]; $P=0.32$]. *Post-hoc* analysis conducted with an arbitrary separation between journals with broader interest ($n=27$) *vs* highly specific ones ($n=5$, rank 12-18-20-22-24 in Table 1) showed a trend towards higher J-SC rate in the specific journals (7.2% [2.2–12.2%] *vs* 25.5% [16.7–27.6%; $P=0.06$), whereas there was no differences in journal IF ($P=0.48$).

This represents the first investigation on the presence of policies for limiting A-SC in anaesthesiology journals, and we are not aware of similar studies in other disciplines. Appropriateness of A-SC has been classified as optional, semi-mandatory, or mandatory,[6] but it remains challenging to make this approach practical.

We found a sub-optimal presence of policies regarding self-citation in anaesthesiology journals. Journals prevalently '*discouraged*' or asked to '*avoid*' self-citations; only one reported a cut-off (pooling together A-SC and J-SC). To add more complexity, it is reasonable that self-citation cut-offs differ between original studies and correspondence, meaning that one cut-off does not fit all manuscript types. Moreover, no journal claims to undertake any action against inappropriate A-SC. We found similar J-SC rates and IF regardless the presence of policies against self-citations. However, the small sample size makes it difficult to draw firm conclusions.

The second (separate) focus of our study was J-SC rate, which was highly variable and should be interpreted with caution. For instance, journals with highly specific targets (i.e. neuro/cardiac/paediatric anaesthesia) may have partly/entirely justified higher J-SC rates, with our *post-hoc* analysis showed a trend in this regard. For example highly specialised studies cite previous investigations that have a high chance of being published in the same journal.

Landoni and colleagues[7] described yearly changes in self-citation attitude by anaesthesiology and critical care journals for the period 1999–2009, and found that it considerably increased from 2006 (11.5%) to 2008 (44.4%). Tighe and colleagues[4] evaluated the practice of J-SC in eight anaesthesiology journals, and found it positively correlated to increased IF.

Our study provides a basis for discussion between editors and publishers on the importance of promoting self-citation policies among anaesthesiology journals, and in other disciplines.

As deliberate A-SC inflates author metrics with possible impact on academic promotion, evaluation, and grant applications, it is paramount to discourage this practice. A recent study reported a 9.2% median (inter-quartile range, 4.8–14.7%) for A-SC among the top 100 000 authors (in 2017).[1] In this context, one should consider that A-SC rate may be higher in leading scientists as they conduct original studies and are often asked to provide viewpoints and editorials. On the contrary, it is more difficult for authors producing few studies, letters, or both and replies to promote themselves. These authors may be more prone to inappropriate A-SC, which warrants further investigation. Of note, A-SC attitude has received greater scrutiny in countries where specific metrics have been included for the application to academic positions. A recent study[8] showed a sharp increase in the amount of A-SC in Italy since 2010 when it became mandatory for achievement of academic habilitation in order to apply for academic positions.

Although the data on self-citation policies, journal IF, and J-SC rates are easily obtained, our investigation oversimplifies a complex issue. Indeed, it remains difficult to address both the appropriateness of A-SC, and the number of inappropriate editorial requests to add specific citations during the review process. We restricted our study to journals with IF; the lack of policies regarding self-citations may be greater in 'predatory journals'.[9,10]

In conclusion, we found a limited number of anaesthesiology journals reporting policies for limiting A-SC. The J-SC rates and IF were not different between anaesthesiology journals with or without policies.

Declarations of interest

The authors declare that they have no conflicts of interest.

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Use of sphenopalatine ganglion block in patients with postdural puncture headache: a pilot meta-analysis

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Keywords: epidural blood patch; headache; nasal trauma; postdural puncture headache; sphenopalatine ganglion block

Editor—We read with great interest the article by Jespersen and colleagues,[1] who reported no significant difference in pain relief between postdural puncture headache (PDPH) patients with sphenopalatine ganglion block treatment and those without.[1] However, sphenopalatine ganglion block has been found to be an effective intervention for PDPH in a case series,[2] and a retrospective study has shown better effectiveness of sphenopalatine ganglion block against PDPH compared with epidural blood patch.[3] Because of these conflicting results, we wished to perform a pilot meta-analysis to investigate whether sphenopalatine ganglion block is superior to conventional treatment (e.g. epidural blood patch or analgesic treatment) in patients with PDPH in terms of analgesic efficacy and safety.

This meta-analysis was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines. The databases of PubMed, Medline, Google Scholar, Embase, and the Cochrane controlled trials register were searched using the keywords 'postdural puncture headache', 'postdural puncture headache', 'dural puncture', 'epidural blood patch', 'PDPH', 'sphenopalatine ganglion block', 'transnasal local anaesthetic', 'sphenopalatine', 'SPGB', 'SGB', and their synonyms to identify studies that compared the analgesic effect of sphenopalatine ganglion block with that of other conventional methods from inception to May 30, 2020. We conducted our search by combining these keywords and the Boolean operators 'AND' and 'OR'. The full PubMed search strategy is available in Supplementary Table S1. No limits were applied for language and year of publication. The inclusion criteria were (1) studies that compared the analgesic effect of sphenopalatine ganglion block with that of placebo or other interventions and (2) those that reported incidence of headache relief as an outcome in patients with PDPH. Exclusion criteria were (1) case reports, case series, abstracts, or conference presentations and (2) unavailability of information regarding outcomes.

Two authors independently examined eligible studies, from which data were extracted. In the event of discrepancy, the third author was consulted. The primary outcome was the success rate in headache relief according to the criteria of each trial at 30 min after sphenopalatine ganglion block or other therapeutic interventions. We adopted headache relief 30 min after sphenopalatine ganglion block as the primary outcome because previous studies have identified rapid headache relief after sphenopalatine ganglion block.[4,5] The secondary outcome was the incidence of adverse events. The risk of bias was assessed for RCTs using criteria outlined in *Cochrane Handbook for Systematic Reviews of Interventions*. For non-RCTs or retrospective studies, the risk of bias was not analysed. Cochrane Review Manager (RevMan 5.3; Copenhagen, Denmark: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014) was used for data synthesis and analysis. A random effects model was used for analysis because of anticipated clinical between-study heterogeneity. For dichotomous outcomes, we calculated odds ratios (ORs) with 95% confidence intervals (CIs). The Mantel–Haenszel (MH) method was used to pool dichotomous data and to compute pooled OR with 95% CIs. The I^2 statistic was used for heterogeneity assessment, whereas inconsistency was quantified by defining 0–50%, 51–75%, and 76–100% as low, moderate, and high heterogeneity, respectively. To assess the impact of individual studies on the overall results of the present meta-analysis, we removed one study at a time to re-evaluate the changes in effect size, with significance set at $P<0.05$ for all analyses.

A total of 181 records were identified. After excluding duplicate records ($n=70$) and other reports by title and abstract ($n=108$), three full-text articles including 139 participants