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The 2017 Virginia Apgar Collection Part II: Maternal Safety and Abstract Reasoning

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This month's *Anesthesia and Analgesia* is the second of two issues featuring work presented at the 2016 meeting of the Society for Obstetric Anesthesia and Perinatology (SOAP). The February issue focused on analgesic innovations, and included 5 original investigations. This month's issue focuses on the theme of maternal safety and includes original investigations of the epidemiology of cardiac arrest during the hospitalization for delivery in Canada,¹ maternal morbidity and mortality among Asian and Pacific Islander women in the United States,² transcutaneous carbon dioxide measurements in women receiving intrathecal morphine for cesarean delivery,³ and the optimal oxytocin infusion rate to maintain uterine contractility during elective cesarean delivery.⁴ The 2016 Gerard W. Ostheimer review links this collection of original investigations to recent publications relating to maternal morbidity, mortality, and innovations in patient safety.⁵

Together, the full collection of articles in the February and March issues is named in honor of Dr. Virginia Apgar. Dr. Apgar first presented her scoring system for newborns as an "abstract" in 1952 at the 27th Annual Congress of Anesthetists (a joint meeting of the International Anesthesia Research Society and International Society of Anesthetists). The abstract was published less than a year later in *this journal*.⁶ The journey from abstract to full peer-reviewed publication is the subject of a study by Gerlach and colleagues in this issue.⁷ The authors examined the frequency with which research abstracts presented at the SOAP annual meetings from 2010 to 2014 were published in peer-review journals by January 2016. Of all abstracts presented, only 27% matched publications available through PubMed. For comparison, the publication rate for abstracts presented at major meetings for cardiology, urology, and ophthalmology ranged from 55 to 66%.

While the study was carefully conducted, there are some reasons to think the reported publication rate may be an underestimate. An abstract may report one component of a larger

study, with the overall work submitted for publication but not individually counted. Additionally, the interval between abstract presentation and the final PubMed search was only 23 months for abstracts presented in 2014. This interval may not be long enough for a lengthy peer-review process and publication schedule, particularly if the manuscript requires multiple rounds of revision or rejection and re-submission. In fact, Gerlach and colleagues report a slightly lower percentage of abstracts published by 2016 from the 2013–2014 meetings compared to those from 2011–2012. In addition, it is possible that some of the clinical research presented at SOAP has been published in non-indexed journals, making the publications hard to find with electronic search strategies.

It should also be noted that the meetings Gerlach et al. used as benchmarks for the SOAP abstract publication rate may not provide fair or equivalent comparisons. These included national and international, large, general-interest anesthesia meetings (ASA, IARS), and large meetings of other specialties (American Urological Association, American Heart Association, American College of Cardiology), all of which are quite different from the small (400–500 attendees) subspecialty SOAP meeting. A more relevant comparison would be the abstract publication rates from other anesthesia subspecialty meetings (SPA, SCA, SAMBA, SOCCA, etc.), or from subspecialty meetings in other medical specialties, but unfortunately these data are not available. Additionally, abstract publication rates within other specialties are cited from older studies, and it is also possible or probable that, owing to increasing clinical demands, current fellows and faculty have less time available now to write manuscripts and navigate the peer-review process.

Even with the above caveats, we congratulate Gerlach et al. for examining this issue; their efforts are particularly noteworthy because data on abstract publication rates have not been examined for any other anesthesiology subspecialty. The study prompts us to reflect on a number of questions of relevance to the SOAP meeting, to the field of obstetric anesthesia, and to anesthesia subspecialties more generally. What is the purpose of abstract presentation at specialty meetings, and is it acceptable that this is the only forum where the work is made available for consumption? What can be done to ensure that important work presented at these meeting is disseminated? Finally, what can be done to encourage high quality research in obstetric anesthesia, and in anesthesiology at large?

The SOAP meeting, while an important forum for the presentation of research related to obstetrical anesthesia, is not exclusively or even primarily a scientific meeting for researchers. Participants are, by and large, clinical faculty, private practitioners, or trainees who attend for continuing medical education, clinical learning, and networking. Frequently, faculty attendees must present abstracts in order to receive time or financial support to attend. The Society has recognized this practical reality and posted an abstract acceptance rate of 80–85% during the years included in the study.¹ Many of the abstracts represent small case series or retrospective reviews. For these abstracts, presentation at SOAP may represent a reasonable terminal endpoint for dissemination, as insights from the work can be shared with a large audience of obstetric anesthesia providers and generate discussion, ideas for future work, or networking opportunities for the authors.

¹Richard Smiley, SOAP Research Committee abstract review records.

At the same time, it is likely that some potentially impactful work presented at the SOAP meeting is never published. Notably, only about half of the oral presentations—reserved for the top ~15% of submitted abstracts based on a rigorous reviewing and scoring system—is published. In this regard, Gerlach and colleagues offered several useful suggestions. As a possible model, they identify the fast-track publication process at the American Journal of Obstetrics and Gynecology for abstracts selected for oral presentation at the Society for Maternal Fetal Medicine (SMFM) annual meeting. In fact, for the past several years, inspired in part by the same SMFM process, the editors at *Anesthesia and Analgesia* have solicited submissions from the authors of the top scoring abstracts at SOAP for publication in the Virginia Apgar Collection that highlights work from the annual SOAP meeting. Response this year was so robust, that the collection was split into two issues, including 10 original investigations that were accepted for publication via this route. This represents a step in the right direction towards encouraging the timely publication of important work from the SOAP meeting.

The low publication rate also compels us to reflect on what can be done to raise interest in research within the obstetric anesthesia community. One important step will be expanded investment in promising young researchers in the field with grants focused on career development. SOAP recently initiated a Young Investigator Grant intended to assist those in the early stages of their career. More initiatives like this are needed. Another important future direction will be for obstetrical anesthesia fellowship programs to develop multi-year research fellowship tracks that facilitate development in both the clinical and research domains. Finally, opportunities exist to deepen the significance and public health impact of our research by focusing efforts not only on questions regarding the optimal provision of obstetrical analgesia and anesthesia, but also on work that seeks to understand the obstetrical diseases and complications that we encounter in our practice. Many of the articles published in this year's Virginia Apgar collection, including the 2016 Gerard Ostheimer review, and work exploring the epidemiology of cardiac arrest, severe maternal morbidity, and maternal mortality, reflect this focus, which is an encouraging sign for our field.

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