

ANESTHESIOLOGY



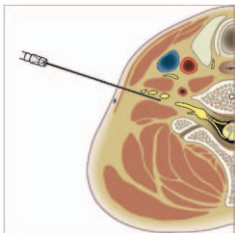
Jean Mantz, M.D., Ph.D., Editor



ASM journals eliminate impact factor information from journal websites. MBio 2016; 7:e01150–16.

Many scientists attempt to publish their work in a journal with the highest possible journal impact factor (IF). This editorial discusses the problems that have arisen along with this inappropriate focus on the IF. The IF is a journal-level metric, not an article-level metric, and publication in a high IF journal does not assure the research is the best science. This focus has also led to distortion in research priorities and the quality of science. The American Society of Microbiology (ASM) has decided to stop advertising the IFs of ASM journals. This interesting debate applies to every specialty, including anesthesiology. (Summary: E. Kharasch, J. Mantz. Illustration: J. P. Rathmell.)

Take home message: The American Society of Microbiology decided to stop advertising the impact factors of their journals.



Effect of regional versus local anaesthesia on outcome after arteriovenous fistula creation: A randomised controlled trial. Lancet 2016; 388:1067–74.

Arteriovenous fistulae are the optimum form of vascular access in end-stage renal failure. In this randomized controlled trial, the authors compared regional versus local anesthesia to improve medium-term arteriovenous fistula patency. One hundred and twenty-six patients with normal coagulation were randomly allocated to receive brachial plexus block or local anesthesia for fistula creation. The primary outcome was fistula patency at 3 months. It was found that primary patency at 3 months was higher in the brachial plexus block group than in the local anesthesia group (53 [84%] of 63 patients vs. 39 [62%] of 63; odds ratio [OR], 3.3; 95% CI, 1.4 to 7.6; $P = 0.005$) and was greater in radiocephalic fistulae (20 [77%] of 26 patients vs. 12

[48%] of 25; OR, 3.6; 95% CI, 1.4 to 3.6; $P = 0.03$). There were no significant adverse events related to the procedure. (Summary: J. Mantz. Illustration: G. Nelson.)

Take home message: Compared with local anesthesia, brachial plexus block significantly improved 3-month primary patency rates for arteriovenous fistulae.



Face transplant: Long-term follow-up and results of a prospective open study. Lancet 2016; 388:1398–1407.

More than 30 face transplantations have been done worldwide since 2005 but documentation of long-term follow-up has been lacking in the literature. The authors report a single-center, prospective, observational study of 20 patients presenting with facial defects. Ten patients were selected and, after three were secondarily excluded, seven were transplanted: two with neurofibromatosis, one with a burn, and four with self-inflicted facial gunshot injuries. The long-term outcomes of six facial allotransplant recipients at an average of 6 yr (range, 3.4 to 9 yr) after the transplantation are reported. Two of seven patients died at 65 days posttransplantation, one of them by suicide. The six patients alive at long-term follow-up had functional transplants. Adverse safety outcomes included

infection in the first month, acute rejection from 1 day to 7 yr after transplantation, and side effects of immunosuppressive therapy. (Summary: J. Mantz. Illustration: J. P. Rathmell.)

Take home message: The preliminary outcomes associated with facial transplantation emphasize the need for careful patient selection (particularly focused on psychiatric evaluation), complete immunologic phenotyping, optimization of the efficacy:safety balance of immunosuppressive therapy, and long-term follow-up by the transplantation team.

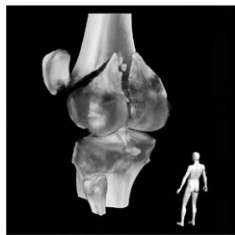


Dexmedetomidine for prevention of delirium in elderly patients after non-cardiac surgery: A randomised, double-blind, placebo-controlled trial. Lancet 2016; 388:1893–1902.

Dexmedetomidine, a highly selective α_2 -adrenergic agonist used for sedation in the intensive care unit, has been shown to reduce delirium in this setting. The authors tested the effect of a prophylactic low dose of dexmedetomidine on the incidence of delirium (a robust predictor of poor outcome) in elderly patients after noncardiac surgery. In this prospective, blinded, placebo-controlled trial, 700 patients aged 65 yr or older scheduled for noncardiac elective surgery were randomized to receive intravenous dexmedetomidine (0.1 $\mu\text{g}/\text{kg}$ per h from intensive care unit admission on the day of surgery until 0800 h on postoperative day 1) or placebo (intravenous normal saline). The primary endpoint was the incidence of delirium, assessed twice daily with the Confusion Assessment Method for Intensive

Care Units during the first 7 postoperative days. The incidence of postoperative delirium was significantly lower in the dexmedetomidine group (32 [9%] of 350 patients) than in the placebo group (79 [23%] of 350 patients; odds ratio 0.35; 95% CI, 0.22 to 0.54; $P < 0.0001$). The incidence of hypotension and bradycardia did not differ between groups. (Summary: J. Mantz. Image: J. P. Rathmell.)

Take home message: For patients over 65 yr of age admitted to the intensive care unit after noncardiac surgery, a prophylactic low dose of dexmedetomidine significantly decreased the occurrence of delirium during the first 7 days after surgery.



Immediate total-body CT scanning versus conventional imaging and selective CT scanning in patients with severe trauma (REACT-2): A randomised controlled trial. *Lancet* 2016; 388:673–83.

Published work suggests a survival benefit for patients with trauma who undergo total-body computed tomography (CT) scanning during the initial trauma assessment, but level-1 evidence is lacking. In this European, randomized, multicenter trial, adult trauma patients with compromised vital parameters, clinical suspicion of life-threatening injuries, or severe injury were randomly allocated to immediate total-body CT scanning or to a standard work-up with conventional imaging supplemented with selective CT scanning. The primary endpoint was in-hospital mortality. There were 1,403 patients included. In-hospital mortality did not differ between groups (total-body CT 86 [16%] of 541 vs. standard work-up 85 [16%] of 542; $P = 0.92$). Three serious adverse events were reported in patients in the total-body CT group (1%), one in the standard work-up group (< 1%), and one in a patient who was excluded after random allocation. All five patients died. Immediate total-body CT scan did not reduce in-hospital mortality compared with the standard radiologic work-up. (Summary: J. Mantz. Image: 3D CT of femoral fracture, J. P. Rathmell.)

Take home message: In adult trauma patients with compromised vital parameters, immediate total-body CT scan did not reduce in-hospital mortality compared with the standard radiologic work-up.



Association between off-site central monitoring using standardized cardiac telemetry and clinical outcomes among non-critically ill patients. *JAMA* 2016; 316:519–24.

Standard, on-site telemetry alarms seldom alter management and often miss serious events, sometimes resulting in death. Poor patient selection contributes to a high alarm volume with low clinical yield. This study aimed to evaluate outcomes associated with an off-site central monitoring unit (CMU) applying standardized cardiac telemetry when ordered for standard indications, such as for known or suspected dysrhythmias. The primary outcome was CMU detection and notification of rhythm/rate alarms occurring 1 h or less prior to emergency response team (ERT) activation, direct CMU-to-ERT notification outcomes, total telemetry census, and cardiopulmonary arrests in comparison with the previous 13 months. There were 99,048 noncritically ill patients included. The CMU detected and provided accurate detection of these events without an increase in the incidence of cardiac arrests. (Summary: J. Mantz. Image: J. P. Rathmell.)

Take home message: Among noncritically ill patients, the use of standardized cardiac telemetry with an off-site central monitoring unit detected cardiac dysrhythmias in selected patients in a timely manner.



The high cost of prescription drugs in the United States: Origins and prospects for reform. *JAMA* 2016; 316:858–71.

The costs of prescription medications in the United States are notoriously high. Per capita spending on prescription drugs in the United States is more than twice as high as the average of other developed nations. In a comprehensive analysis, the authors carefully dissect the underlying causes. These authors cite marketing protections including regulatory exclusivity awarded at the time of Food and Drug Administration approval and patent protection that can last 20 yr or more as key factors. A second major driver of high US drug prices was identified to be the lack of price-negotiating authority of major public entities such as Medicare. Arguments such as the need to recoup research and development costs as a rationale felt to be well justified when carefully examined. The authors conclude with a list of suggestions addressing some of the major drivers of high drug costs that would stimulate competition and reduce specific price-stimulating marketing practices. (Summary: David J. Clark. Image: J. P. Rathmell.)

Take home message: High cost of prescription drugs in the United States seems to be unsupported by robust justification.



A new instrument for assessing resident competence in surgical clinic: The Ottawa Clinic Assessment Tool. *J Surg Educ* 2016; 73:575–82

Assessing competency in residency education is an ongoing challenge. These authors developed and refined a global assessment tool aimed at measuring competency in the clinic setting of surgical residents in three subspecialties. The assessment form that can be completed in less than 5 min had nine items measured on a Likert scale, plus two open-ended questions soliciting specific suggestions for improvement. This Ottawa Clinic Assessment Tool was set apart from other global assessment tools by the Likert scale anchor phrases that are based on the degree of instructor involvement. For example, a “1” indicates “I had to do” versus a “5” for “I did not need to be there.” The midpoint rating of “3” represents “I had to direct them from time to time.” Authors described measures of validity and demonstrated the anticipated increasing score with each incremental level of training. Seventy-nine residents and 44 staff surgeons participated in this pilot study. They calculated that at least three ratings were needed per trainee for valid assessment. Although this study focuses on surgeons, this rating scale focusing on degree of supervision required is amenable for adaptation to other practice settings including anesthesia residents in the operating room, especially for assessing competency of technical skills. (Summary: Cathleen Peterson-Layne. Image: J. P. Rathmell.)

Take home message: Competency assessment can be performed with a convenient global rating tool when the scale relates to the degree of supervision required.