Penn State Anesthesiology News

PENNSTATE HERSHEY Anesthesiology

SPRING/SUMMER 2011

HIGHLIGHTS OF INTEREST:

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- 6th Annual PARRC (pg 2)
- Mission Trip (pg 7)
- MOCA Training (back cover)

"Our Vision for the Department is to be a Model Academic Department of Anesthesiology which serves as a Model for Academic Anesthesia Worldwide."

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Chairman's Corner

Berend Mets, MB, ChB, PhD, FRCA, FFA(SA)

Eric A. Walker Professor and Chair of Anesthesiology

This issue of *Penn State Anesthesiology News* celebrates some of the ongoing research in the department.

In order to develop the research potential of a Department of Anesthesiology, it is important to engender a passion for research and enquiry both in our Faculty and in our Residents. The latter as part of their Residency Training, so that they may become the Academic Anesthesiologists of the future.

The need to engender passion for an endeavor was cogently stated by Antoine de Saint-Exupery, a World War II Pilot and Explorer.

"If you want to build a ship, don't drum up the men to go to the forest to gather wood, saw it, and nail the planks together. Instead, teach them a desire for the sea."

In order to develop this research passion and potential in our residents, three years ago, we started the Resident Academic Project Program. This was based on the ACGME requirement that residents need to fulfill a writing assignment as part of their training. The goal of the Resident Academic Project is to teach our residents research methodology by doing a mentored project. The project itself does not have to be of earth shattering importance but is meant to serve as a vehicle to train residents in research methodology, in the hope that this will engender a passion for research, its presentation and the process of and realization of publication.

We have conducted this program in the following way. Each resident, in their first year of training, is matched with a mentor, who is an Associate or Full Professor in the department. This mentor assures that the project is completed on time, and provides "quality control" of the feasibility of the project, that it is adequately executed, and subsequently well presented. This mentor may, but does not have to be the executor of the project; who might be an additional faculty member, e.g. an Assistant Professor in the department, or a faculty member from another department. In order to track that appropriate progress is being made, April 1 of each year is set as a deadline date for (1) Matching of mentors, (2) the project plan and (3) the ultimate completion of the project which must be summarized and submitted in a written form similar to what would be required for submission to a journal for publication. Thus, a PGY-1 Resident in our program would have a suitable mentor and project assigned by April 1 of their first year, a Planned Project Outline submitted by April 1 of their PGY-2 year and a completed project submitted in their PGY-3 year by the same date. The project would undergo ongoing adjudication by the Resident Research Committee, Chaired by Professor Sonia Vaida, Vice-Chair for Research, and ably supported by Professor Bosseau Murray, who is in charge of matching feasible projects and monitoring their outcome for each resident. In addition, Dr. Verghese Cherian serves to establish the necessary education programs (research methodology, statistics) to

Professor Berend Mets
Eric A. Walker Professor and Chair

Chairman's Corner: Continued on page 3

Best Doctors in America!

More than 170 Penn State Hershey physicians were named Best Doctors. Congratulations to the following members of Anesthesiology who were selected for inclusion in 2010; Joseph Answine, Vitaly Gordin, Donald Martin, Patrick McQuillan, Elizabeth Sinz and John Stene.

Publications for January 1, 2010 - December 31, 2010

Case Reports:

1. **Steel C**, **Vaida S**, **Mets B**. Massive blood transfusion in a patient with IgA deficiency undergoing cesarean delivery. *Anesthesia & Analgesia*. 2010;110(4):1088-90.
2. Singh G, **Cherian VT**, Thomas BP. Low-concentration, continuous brachial plexus in the management of Purple Glove Syndrome: a case report. *Journal of Medical Case Reports.* 2010;4:48.
3. **Bezinover D**, **Douthitt L**, **McQuillan PM**, Khan A, **Dalal P**, **Stene J**, Uemura T, Kadry Z, **Janicki PK.** Fatal Hyperammonemia After Renal Transplant due to Late-Onset Urea Cycle Deficiency: A Case Report, *Transplant Proceedings.* 2010;42:1982-1985.
4. **Bezinover D, McQuillan P, Rossignol J**, Uemura T, Kadry Z, **Janicki P**. Vasoplegic shock during liver transplantation: Is the preoperative cGMP plasma level a potential predictor of hemodynamic instability? *Med Sci Monit.* 2010;16(9): CS114-117.
5. **Kapoor R**, **Liu J,** Devasenapathy A, **Gordin V.** Gadolinium Encephalopathy after Intrathecal Gadolinium Injection. *Pain Physician.* 2010;13:E321-326.

Chapters:

1. **Giampetro D**, **Vorobeychik Y**. Role of Adjuvant Medication in Managing Opioid-Induced Hyperalgesia. In: Mao J, ed. *Opioid-Induced Hyperalgesia*. New York, NY: Informa Healthcare USA; 2010:164-173.
2. **Vorobeychik Y.** Ketamine and the Management of Opioid-Induced Hyperalgesia. In: Mao J, ed. *Opioid-Induced Hyperalgesia*. New York, NY: Informa Healthcare USA; 2010:124-134.

Journal Articles:

1. Moradkhan R, Spitnale B, **McQuillan PM**, Hogeman C, Gray KS, Leuenberger UA. Hypoxia-induced vasodilation and effects of regional phentolamine in awake patients with sleep apnea. *J Appl Phys.* 2010;208:1234-1240.
2. **Mahmoud S,** Margas W, Trapella C, Caló G, **Ruiz-Velasco V**. Modulation of Silent and Constitutively Active Nociceptin/Orphanin FQ Receptors by Potent Receptor Antagonists and Na^+ Ions in Rat Sympathetic Neurons. *Molecular Pharmacology*. 2010;77(5):804-817.
3. Ramchandani VA, Umhau J, Pavon FJ, **Ruiz-Velasco V**, Margas W, Sun H, Damadzic R, Eskay R, Schoor M, Thorsell A, Schwandt ML, Sommer WH, George DT, Parsons LH, Herscovitch P, Hommer D, Heilig M. (2010May18). A genetic determinant of the striatal dopamine response to alcohol in men. *Mol Psychiatry*. Advance online publication. doi: 10.1038/mp.2010.56.
4. Choby G, **Trojanowski A**, Johnson S, Goldenberg D. Use of Double Electrode Pads for Intraoperative Monitoring of the Recurrent Laryngeal Nerve. *The Annals of Otology, Rhinology & Laryngology*. 2010;119(4):233-235.
5. **Pott L, Budde A.** Anesthesia Management: Subdural Hemorrhage and Difficult Airway: A Flat-Screen Simulation and Interactive Debriefing. *MedEdPORTAL;* 2010. Available from http://services.aamc.org/30/mededportal/servlet/s/segment/mededportal/?subid=7891.
6. **Pott L, Budde A.** Management plan for tracheal intubation. *Update in Anaesthesia*. 2010;25(2):6-8.
7. **Budde A, Pott L.** Management of unanticipated difficult tracheal intubation: routine induction and rapid sequence induction of the non-obstetric patient. *Update in Anaesthesia*. 2010;25(2);9-14.
8. **Pott L.** Management of the 'can't intubate, can't ventilate' situation. *Update in Anaesthesia*. 2010;25(2):15-20.
9. **Sathishkumar S.** Guidelines for management of a malignant hyperthermia (MH) crisis. *Update in Anaesthesia*. 2010;25(2):69-73.
10. **Rajan N.** Management of severe local anesthetic toxicity. *Update in* Anaesthesia. 2010;25(2):74-79.
11. Wong D, Yau B, Thapar S, **Adhikary S**. The effect of bronchoscope rotation on tracheal tube orientation at the glottic level in a mannequin. *Can J Anesth*. 2010;57:913-918.
12. Gaitini LA, Lavi A, Stermer E, Mora PC, **Pott LM, Vaida SJ.** Gastro-Laryngeal Tube for endoscopic retrograde cholangiopancreatography: a preliminary report. *Anaesthesia*. 2010;65:1114-1118.
13. Field JM, Hazinski MF, Sayre MR, Chameides L, Schexnayder SM, Hemphill R, Samson RA, Kattwinkel J, Berg RA, Bhanji F, Cave DM, Jauch EC, Kudenchuk PJ, Neumar RW, Peberdy MA, Perlman JM, **Sinz E**, Travers AH, Berg MD, Billi JE, Eigel B, Hickey RW, Kleinman ME, Link MS, Morrison LJ, O'Connor RE, Shuster M, Callaway CW, Cucchiara B, Ferguson FD, Rea TD, Vanden Hoek TL. Part 1: Executive Summary: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010;122:S640-S656.
14. Neumar RW, Otto CW, Link MS, Kronick SL, Chuster M, Callaway CW, Kudenchuk PJ, Ornato JP, McNally B, Silvers SM, Passman RS, White RD, Hess EP, Tang W, Davis D, **Sinz E**, Morrison LJ. Part 8: Adult Advanced Cardiovascular Life Support: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010;122:S729-S767.
15. Vanden Hoek TL, Morrison LJ, Shuster M, Donnino M, **Sinz E**, Lavonas EJ, Jeejeebhoy FM, Gabrielli A. Part 12: Cardiac Arrest in Special Situations: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010;122:S829-S861.
16. Bhanji F, Mancini ME, **Sinz E**, Rodgers DL, McNeil MA, Hoadley TA, Meeks RA, Hamilton MF, Meaney PA, Hunt EA, Nadkami VM, Hazinski MF. Part 16: Education, Implementation, and Teams: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2010;122:S920-933.
17. **Ramamoorthy S**, **Reddy V, Dhar P.** Anesthetic Consideration in a Patient with Postdural Orthostatic Tachycardia Syndrome. *The Internet Journal of Anesthesiology*. 2010;27(2).
18. Gaitini LA, Somri M, Yanovski B, **Vaida SJ.** Minimal Inflation Volume for Combitube Oro-Pharyngeal Balloon. *Journal Medical Aradean (Arad Medical Journal)*. 2010;XIII(3):27-32.

Publications Cont.

19. Fassl J, Jenny U, Nikiforov S, **Murray WB**, Foster PA. Pressures Available for Transtracheal Jet Ventilation from Anesthesia Machines and Wall-Mounted Oxygen Flowmeters. *Anesthesia & Analgesia. 2010*;110(1):94-100.
20. Fassl J, **High K**, Stephenson ER, Yarotskyy V, Elmslie KS. The Intravenous anesthetic propofol inhibits human L-type Calcium Channels by Enhancing Voltage-Dependent Inactivation. *J Clin Pharmacology*. 2010;51(5):719-30.

Letters:

1. **Dalal PG**, Murray D, McAllister J, Molter D. Letter to the Editor; In Response. *Anesth Analg*. 2010;110(5):1511.
2. Ramlogan R, Manickam B, Chan V, Liang L, **Adhikary S**, Liguori G, Hargett M, Brull R. Challenges and Training Tools Associated with the Practice of Ultrasound-Guided Regional Anesthesia; A Survey of the American Society of Regional Anesthesia and Pain Medicine, Letter to the Editor. *Regional Anesthesia and Pain Medicine*. 2010;35(2):224-6.

Editorials:

1. **Dalal P, Vaida S**. Treatment of pain on injection with propofol: not a trivial matter! *Minerva Anestesiologica*. 2010;76(9):691-2.
2. Field JM, Hazlinski MF, Sayre, MR, Chameides L, Schexnayder SM, Hemphill R, Samson RA, Kattwinkel J, Berg RA, Bhanji F, Cave DM, Jauch EC, Kudenchuk PJ, Neumar RW, Peberdy MA, Perlman JM, **Sinz E**, Travers AH, Berg MD, Billi JE, Eigel B, Hickey RW, Kleinman ME, Link MS, Morrison LJ, O'Connor RE, Shuster M, Callaway CW, Cucchiara B, Ferguson JD, Rea TD, Vanden Hoek TL. Editorial Board. *Circulation*. 2010;122:S639.

Congratulations to the following Faculty on their recent promotions!

Priti Dalal, MD, FRCA
Associate Professor of Anesthesiology

Khaleed Sedeek, MD
Associate Professor of Anesthesiology

Sonia Vaida, MD
Professor of Anesthesiology & OB-GYN

Chairman's Corner, Cont.

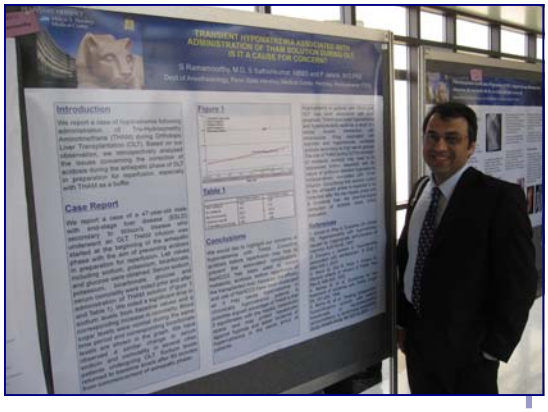
educate our residents, and Dr. Arne Budde assigns academic time for the projects to the residents. Kelli Welker, our Research Coordinator, makes sure that each phase of the program is timely and meticulously executed. The subject matter for the Academic Project might be a Clinical Research Project, but more feasibly, in a busy residency training program, we have found Clinical Improvement Projects, Retrospective Reviews and Simulation-Based projects to work well. Upon completion and submission of the final project, two Academic Project Grand Rounds are scheduled in May and June where the PGY-3 Residents present their completed Projects and these are adjudicated by the Professors in the Department. The Academic Projects are usually found to be of sufficient depth and quality to be considered completed in the PGY-3 year at the conclusion of this presentation. However, should the project be considered incomplete, the resident then has the PGY-4 year to consolidate the project and resubmit and present again at the next years' Academic Project Grand Rounds.

We encourage our Residents to present their projects locally at the annual Pennsylvania Anesthesiology Resident Research Conference (PARRC) now in its 6th year. This was created by the then Pennsylvania Chairmen, as a forum for Resident Research Presentations and is held annually at one of our departments in Pennsylvania. This year we hosted PARRC 6 in Hershey, and no less than 52 abstracts were submitted for presentation, which stands as good testament of the efforts of our residents and faculty in supporting Academic Projects for Residents. In the following pages you will read more about the PARRC 6 event, and it remains for me to thank especially Professor Sonia Vaida, Dr. Arne Budde, Pam Myers, and Kelli Welker for the work done in making this a most successful event. We were proud to host this at Hershey this year.

6th Annual PARRC

The Penn State Department of Anesthesiology was the host of the 6th Annual Pennsylvania Anesthesiology Resident Research Conference (PARCC) held on Saturday May 7th. This conference is an excellent opportunity for residents from programs across the state to present original research projects and case reports. This year there were approximately 85 attendees, including faculty and residents from Drexel University, Temple University, University of Pennsylvania, Thomas Jefferson University, University of Pittsburgh and West Penn Allegheny Health System.

Activities of the day included original research and case report oral presentations as well as poster rounds. Awards were presented at the end of the day for first, second and third place in each category. The oral presentation judges included: Daniel Notterman MD, Vice Dean for Research and Graduate Studies Penn State College of Medicine, Kent Vrana, PhD, Elliot S. Vesell Professor and Chair, Department of Pharmacology Penn State College of Medicine and Richard Simons, Jr., MD, Professor of Medicine, Vice Dean for Educational Affairs, Penn State College of Medicine.



Congratulations to all award recipients, three of whom were from Penn State!

Dr. Saravanan Ramamoorthy (shown with his poster presentation to the right) (CA-2) received first place for his Original Research Oral Presentation , *"Use of Third-Generation Perfluorocarbon for Preservation of Donation after Cardiac Death Rat Liver Grafts"*

Dr. Andaleeb Ahmed (CA-1) received second place for his case report poster presentation, *"Use of Cosyntropin for Treatment of Refractory Postdural Puncture Headache: Case Report and A Suggested Algorithm"*

Dr. Ravish Kapoor (CA-1) received third place for his case report oral presentation, *"Gadolinium Encephalopathy After Intrathecal Gadolinium Injection"*

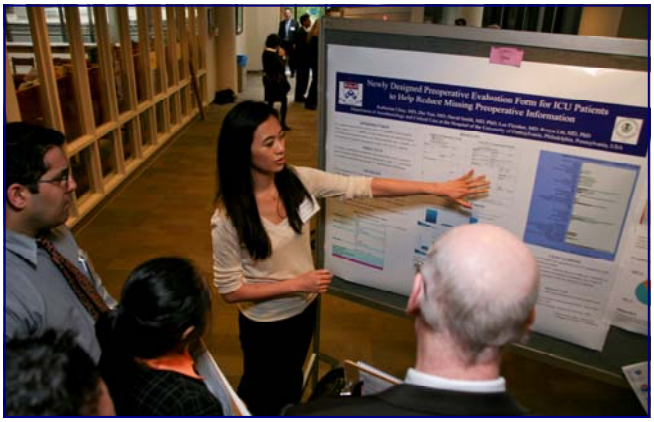
Back row from left: Dr. Christopher Troianas, West Penn Allegheny University , Dr. Zvi Grunwald, Thomas Jefferson University, Dr. Lee Fleischer, University of Penn, Dr. George Mychaskiw, Drexel University
Front row from left: Dr. Berend Mets, Penn State University and Dr. John P. Williams, University of Pittsburgh

6th Annual PARRC Photos

Professor Berend Mets, welcoming everyone to the 6th Annual PARRC.

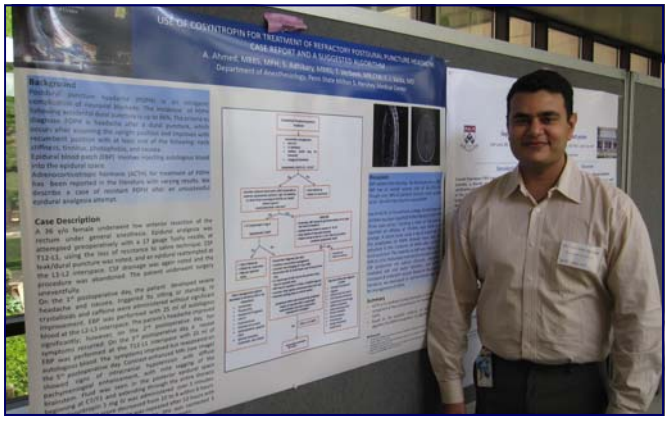
Professor Sonia Vaida introducing one of the days participants.

A view of our library from the podium.



Dr. Katherine Chuy (UPenn) presenting her poster for Original Research.

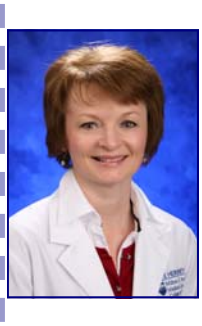
Dr. Arne Budde presenting Dr. Ravish Kapoor with an award for his oral presentation in the Case Reports category.



Dr. Andaleeb Ahmed standing next to his winning poster.

Welcome our New Faculty & Staff Members

Mike Bahry joined the Anesthesiology Department as Operations Director in December, 2010. He attended Penn State for his undergrad in Business Logistics and the University of Southern California Viterbi School of Engineering for his Masters. He is married to Joanne, an Elementary School Teacher in Paradise, PA. He has a son named Ryan who recently passed the Bar in Seattle, Washington and his daughter Alexandra, is an undergrad in Portland, Oregon studying soccer (futbol), tree hugging, and Geographical Information Systems. When Mike isn't working, he enjoys hiking with friends, biking alone and doing yard work.



Jackie Lamendola joined the Anesthesiology Department as Clinical Performance Improvement Specialist (CPIS) in January, 2011. In this newly created position, Jackie provides project management and process/performance improvement planning and oversight in order to facilitate the Department of Anesthesiology Quality Improvement Program. She is also aligned with institutional quality and safety initiatives through the Department of Process Engineering and Redesign and provides a direct connection with departmental quality and safety. Jackie's background includes project and financial management, process improvement and nursing. She is a former PSHMC employee and worked as Project Consultant with the Program Management Office. Jackie has a Bachelors of Science in Business Administration from the University of Pittsburgh and is a Registered Nurse with an Associate Degree in Nursing from Harrisburg Area Community College. She is also the proud mom of 3 grown children, 1 son and 2 daughters and loves being a grandma with a 2 year granddaughter and a grandson due in June. She is enjoying her return to PSHMC and working with the Department to improve quality and safety for our patients.

Dr. Mary McHugh started with us in February, 2011. Dr. McHugh received her MD from the University of Pittsburgh, and after completing a residency in Obstetrics and Gynecology, she completed a residency in anesthesia at the University of Pennsylvania. She served as Chief Resident during her final year in residency. Dr. McHugh has practiced as a consultant anesthesiologist with a special interest in Obstetric Anesthesia since 2004.

Prolung Ngin, CRNA, started with the Hershey Medical Center in February. She completed her undergrad and graduate studies at Villanova University. Before starting with Hershey, she worked at A.I. DuPont Hospital for Children working in the PICU as an Air and Ground Transport RN and then went to CHOP. Prolung is married to Robert O'Donnell and they share an interest of working with Meals on Wheels in the future. Prolung has also been on a few international mission trips for Operation Smile. She would like to continue working with Operation Smile upon settling into her current position here.

Congratulations to Pamela Myers (left) and Karen Bowman on 35 Years of Service!!

Mission Trip to Zambia

By Lauren Welsh, M.D.

I have just returned from Zambia, where I spent two months implementing the Surgical Safety Checklist and pulse oximetry for the World Health Organization (WHO) and the Harvard School of Public Health. The Surgical Safety Checklist has been implemented across the globe and was shown to decrease postoperative mortality and complications by more than one-third. As of today, over 4,000 hospitals (including HMC) have registered and are using the checklist.

There are 234 million surgical procedures worldwide every year, outnumbering HIV and childbirths. After these procedures, there are at least 7 million disabling post operative complications and at least one million deaths. Because of these facts, surgery has recently been considered a public health issue. Creating a safer surgical environment can potentially affect the lives of millions, which is why the WHO has been working to implement the Surgical Safety Checklist worldwide. This implementation has been challenging in the developing world since these places do not always have access to surgical and anesthesia equipment, monitoring, medications, and sterilization techniques.

The new goal of the WHO is to implement the checklist with pulse oximetry in the developing world where pulse oximetry was not previously available. It is expected that implementing the two together will decrease postoperative mortality and complications even more than the checklist alone, which is the trend seen already in Maldova, the first of three sites. When I contacted the project investigators at the Harvard School of Public Health last spring about helping to implement the checklist somewhere in the developing world, they were actually in search of an anesthesiologist who could implement the checklist and teach pulse oximetry at the second of three sites, the University Teaching Hospital (UTH) in Lusaka, Zambia. After many emails and phone conferences over the fall, I left this February and headed to Lusaka.

The differences between HMC and the UTH were stark – male and female wards, reusing ETTs and LMAs (hoping the correct size was available), lack of batteries for the laryngoscopes and FiO2 monitors, halothane as the only inhalational agent, no way to change and clean the circuits on the few ventilators that were available and functioning, and the list goes on. There were residency programs and a medical school at UTH, but not an anesthesia residency. The few anesthesiologists there were from another country, mainly Uzbekistan. The Clinical Officers are trained by two years of nonclinical medicine and then two years of hands on anesthesia in the operating room. These are the Zambians that administer anesthesia across the country, usually without an anesthesiologist. The UK is starting an MMed program (which is what the UK calls residency) at UTH this summer to train Zambian medical school graduates and hopefully some of the Clinical Officers to become anesthesiologists.

While there I taught the Clinical Officers and Clinical Officer Students about pulse oximetry and other anesthesia topics. I spent time with them in the class room and in the operating room. I also worked on troubleshooting the use of the new oximeters, downloaded and reported intraoperative hypoxemic episode data, coached the use of the checklist during surgery, revised the checklist to better fit the culture and people, redid the pre-implementation postoperative mortality data, and created a way to collect this data during the post-implementation phase of the project after my departure.

This was a life changing experience and something I'd like to continue doing in my future career. I'd like to take this opportunity to thank the Department of Anesthesiology here at HMC for their support.

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Do you have a submission or topic of interest for the next edition?

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