



## So Cal VOICE

11<sup>th</sup> Semi-Annual Meeting

4 November 2016

Keck Medical Center, USC, Los Angeles, California

### Minutes

#### Attendees:

Name	Position	Center
Ahmed Abou-ZamZam, MD	Medical Director	Loma Linda
Dennis Bandyk, MD	Physician	UCSD
Donald Baril, MD	Physician	UCLA
Nina Bowens, MD	Physician	Harbor-UCLA
Nadine Caputo, MS	Director of Quality	SVS PSO
Ankur Chandra, MD	Physician	Scripps Health
Wendy Chiodo, RN	Hospital Manager	Sharp Grossmont
Joie Dunn, MD	Resident	USC
Wesley Fung, MD	Physician	San Fernando Valley Vascular
Vincent Guzzetta, MD	Physician	Sharp Grossmont
Sung Wan Ham, MD	Physician	USC
Sukgu Han, MD	Physician	USC
Karen Heaney, RN	Hospital Manager	Sharp Grossmont
Cali Johnson, MD	Resident	USC
Katrina Ladd-Reeder, RVT	Hospital Manager	Providence St. Joseph
Debbie MacAulay	Sales	M2S
Sasan Najibi, MD	Physician	Providence St. Joseph
Linda Oshinomi, RN	Hospital Manager	UCLA
Peter Pak, MD	Resident	USC
Joyce Peralta, ACNP	Other	USC
Anna Petrovska	Other	Providence St. Joseph
Laura Sjoberg, NP	Other	USC
Karen Woo, MD	Physician	UCLA
Fred Weaver, MD	Physician	USC
Monica Wong, MD	Physician	USC

Roberta Wright, CPHQ	Hospital Manager	Providence Tarzana Medical Center
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Meeting called to order at 10:00 am

**Welcome/overview** (Ahmed Abou-Zamzam)

Welcome and introduction of all attendees.

**Regional Update** (Ahmed Abou-Zamzam)

A list of participating centers was presented. The group at UC Irvine has not yet begun entering cases. Members were again encouraged to approach small-group practices they may interact with to enroll.

The data on the numbers of cases within the VOICe registry were presented. Currently there are 6333 cases with the majority being composed of PVI (2723) and CEA (1489). The monthly volume has appeared to plateau near 140. This may mark the maturation of the group but also emphasizes the need for further recruitment of sites.

Administrative Issues:

Dr. Abou-Zamzam discussed his conversations with Dr. Tej Singh, the medical director of the northern California regional study group. A topic of a potential combined "California" meeting was presented to the group. There appears to be some general interest in pursuing this further. Dr. Abou-Zamzam and Dr. Singh will discuss this further and the spring meeting appears to be the most amenable to a joint meeting in the future.

Dr. Abou-Zamzam brought up the topic of soliciting for a member from the VOICe to serve as the representative on the VQI national arterial quality committee.

The financial status was reviewed with the group. Right now there is no distinct entity under which the group operates under. An option is to set up under the national VQI or to continue to operate under the structure of the Southern California Vascular Surgery Society. As there are no current dues, the general consensus was to continue with the current structure. Dr. Abou-Zamzam will continue to solicit support from industry.

A copy of the redlined bylaws changes will be sent out to centers next week. The major changes are a clearer description of the Executive Committee (EC), Arterial/Venous Quality Committees (AQC, VQC) and the Research Advisory Committee (RAC). Attendees were reminded of the general structure of the group.

A list of hospitals in the region that would be potential new members was presented to encourage attendees to discuss participation in the VOICe with any physicians they may know at these other facilities.

## **Data Review** (Karen Woo)

Regional Quality Reports showing all study groups and VQI averages were presented. Dr. Woo invited participants to comment on which reports were helpful and which were unnecessary.

(Regional reports: Overall volume; missing data; LTFU; skin prep; IB with in-hospital infection rates; U/s guidance for PVI, hematoma post-PVI; ABI in PVI; EVAR/TEVAR sac diameter at LTFU; CEA LOS>1 day; open AAA LOS $\geq$ 8 days; EVAR LOS  $\geq$ 2; Primary AVF vs AVG, retrieval of IVC filters, CAS stroke/death – all not enough participants; CEA stroke/death; LEB major comps; Open AAA mortality;

Much discussion was generated during the regional reports:

**Looking at EVAR** – a suggestion was made that the report look at LOS  $\leq$ 2 days, and then 2-4 days then > 4 day. This will be taken back for discussion by Nadine Caputo to see if it can be incorporated into the regional report.

The question whether we could have post-op stays as well as LOS was raised. Note was made that a lot of reports include only elective cases which are almost always am-admits.

**One possible quality initiative** grew out of the discussion – there was much interest in the length of stay following CEA. There was discussion regarding the best perioperative management. A pervasive feeling was that manipulations for blood pressure control were mostly responsible for prolonging hospitalization following CEA. Management of anti-hypertensive medications was discussed. This was pointed out as an area to examine at the next meeting. Perhaps looking at standard order sets, use of IV medications versus oral medications, intraoperative and preoperative preparations were all cited as possible influences. Dr. Chandra suggested a survey following the meeting to see how physicians manage the blood pressure in patients following CEA.

## **Missing Data** (Karen Woo)

Overall, nearly 42% of submitted procedures have missing data in our region. This is slightly lower than the VQI national average (42% vs 49% in 2015). Within our region the percentage varies from single digit to nearly 80%.

Specifically; CAS – upper extent of lesion (35%); IB – ABI (36%); PVI – BI (33%)

A discussion was held as far as opportunity for improvement. Some discussion on the issues with ABIs were discussed. These may not be readily accessible to data extractors.

## **Medications: Antiplatelets and Statins** (Karen Woo)

Dr. Woo reviewed data on the use of antiplatelets and statins that has been gathered by Dr. Martino from the VQI registry. There is a clear survival benefit with the use of these medications. For every 25 patients treated, there are 3.5 additional patients alive at five years. In a recent paper Dr. DeMartino and colleagues demonstrated that medical management was

improved by VQI participation and thus involvement in an organized quality effort can affect patient outcomes.

Dr. Woo presented regional data on preop and postop antiplatelet use in CEA, PVI and LEB patients over time in the VOICe. Similar data were seen for statin use over the past five years. Discharge antiplatelet use has improved over the past five years. Dr. Woo reviewed the algorithm developed at USC for the initiation of statin therapy.

### **Pre-op cardiac testing (Karen Woo)**

Dr. Woo reviewed the prior data presented at the last meeting regarding the variation in the use of preoperative cardiac testing in the VOICe.

Reviewed data available in the registries – all modules have stress test field; some modules also ask for EF. Data shown on EF and stress tests for elective procedures in VOICe regional data; marked majority of examinations are normal. Some data presented for post op MI; the majorities have normal stress tests.

Variation in stress test by center in CEA, IB, EVAR shown – wide variation noted

#### Survey Results

Dr. Woo reviewed results of survey circulated to members of the VOICe earlier this year regarding preoperative cardiac testing. In summary: a fair proportion (55%) of participants feel that stress tests are over-utilized and do not provide important information; nearly 50% felt that cardiac evaluation delayed cases, and all felt that the evaluation rarely (84%) or never (16%) altered the operative plan. Most respondents (>60%) felt that the anesthesia service was the driver for testing; the reason for testing was primarily risk stratification (58%); results per procedure were reviewed.

### **Preoperative Cardiac Evaluation Panel Discussion:**

Dr. Weaver has assembled a panel to discuss issues of preoperative cardiac testing for the vascular surgery patients. This stemmed from the prior meeting where discussion was held around the use of preoperative cardiac testing in patients undergoing CEA.

Participants: Earl Strum, Chief, Department of Anesthesiology

Parveen Garg, Assistant Professor, Division of Cardiology

Tom Bates, Risk Management, Keck

Dr. Garg presented the general assessments that he prefers in line with the 2014 AHA guidelines.

The key is to identify patients at elevated risk – defined as >1% risk of perioperative cardiac event. If the patients are low risk (<1%) then no further testing is advised. If a patient can regularly

exercise to > 4 METS then no further testing is advised. If they achieve <4 METS then the use of a stress echocardiogram or perfusion imaging are equally useful in risk stratification. Dr. Garg identified the MICA – Myocardial Infarction and Cardiac Arrest - calculator as a useful tool. This is available online. The MICA uses age, creatinine > 1.5, dependent functional status, ASA and surgery type. Dr. Garg presented an extensive flow tree for testing decisions. He also emphasized the importance of medical optimization with antiplatelets, statins and (in appropriate patients) beta-blockers.

Dr. Strum also stated that he follows the AHA 2014 guidelines. He stressed the clinical risk assessment. This combined with functional status and type of surgery is essential to predict perioperative risk. He reviews the patient's history and their ability to achieve > 4METS (climb 1 flight of stairs, walk at 4 mpg, run a short distance). He may consider other factors when assessing patients who are in the 4-10 METS range – a history of MI, any symptoms. He also feels that imaging should not be repeated within one year if there have been no clinical changes. Reasons to delay surgery include unstable or severe angina, recent MI (within 60 days), CHF. An echo maybe useful if clinically suspected moderate or severe heart disease exists and there is no echo in the past year. He prefers the NSQIP risk calculator (type of surgery, functional status, creatinine, ASA and age) – this is almost identical to MICA. NSQIP-guided management: if surgical risk <1% proceed with surgery; if >1% and < 4 METS, obtain stress test (if it would affect management).

Mr. Tom Bates reviewed the issues from a legal standpoint. The central ideas of Duty, Breach of Duty, Causation and Damages were presented.

Specifically when discussing Breach of Duty is where the idea of “standard of care” arises. When discussing the standard of care, clinical practice guidelines, such as the 2014 AHA guidelines, are often cited. Standard of care is typically defined as “That which a minimally competent physician in the same field would do under similar circumstances.”

During the ensuing discussions with the group, Dr. Garg identified the MICA – Myocardial Infarction and Cardiac Arrest - calculator as a useful tool. This is available online. The availability of other risk calculators was discussed. Specifically the VQI has supported the development of risk calculators available through a free app at QXMD. The MICA uses age, creatinine > 1.5, dependent functional status, ASA and surgery type. Other tools are similar – using age, creatinine, diabetes, congestive heart failure, and other factors.

Goals for the group were discussed:

Can this be turned into a QI project to standardize preoperative testing in the region? Would this lead to cost savings? Can a hashtag # project be developed?

**LUNCH**

### **Focused Update - Suprainguinal Bypass (Karen Woo)**

A review of the regional outcomes in this registry was presented. There were 172 procedures (4 centers, 15 surgeons); 325 limbs; 49% for claudication. Preoperative imaging included some type of angiogram and/or CTA used in nearly 90%. 35% of cases had aortic inflow; others were axillary, iliac or femoral. Mean LOS was 8 days; 4% mortality; nearly 44% overall complication rate.

We discussed the possibility of further analyzing based on aortic versus extra-anatomic reconstructions, but the numbers are small. Next meeting perhaps a closer look at open aortic procedures could be performed.

### **Smoking Habits in the VOICe and VQI (Ahmed Abou-Zamzam)**

Data were shown from the VOICe which demonstrate that smoking rates vary widely by center – 22%-55% - in patients undergoing procedures for claudication are active smokers. Supra-inguinal disease has the highest proportion of active smokers.

For those patients with long-term follow up, 45% have quit smoking. Cessation rates vary by procedures – being greatest following open AAA repair (65%), and lowest following CAS (22%) and PVI (37%). The smoking cessation rates vary widely by center and range from 10-80%.

A follow up of a report on smoking patterns in patients undergoing treatment for claudication in the VQI (a national project) was presented. This was presented at the Western Vascular Society meeting and has been submitted to the JVS. In summary, there is wide variation in smoking behaviors by center in patients being treated for intermittent claudication. Overall, 44% of patient treated for IC are active smokers. Patients who were active smokers at the time of treatment tended to be younger, had fewer comorbidities, and had supra-inguinal disease. There was no difference in smoking rates in patients undergoing open versus endovascular interventions. The region in which the patients were treated seems to have a large interaction with their smoking status.

There was some discussion regarding these findings. It was pointed out that information on regional variation should be linked to geographical regions as the smoking habits are known to vary across geographical regions in the US.

A brief discussion on smoking cessation strategies to employ was held. Interventions as simple as asking and advising the patient the patient can be effective as in the VAPOR study. Centers were encouraged to seek out the best local programs to optimize resource utilization.

**ACA Update** (Karen Woo)

Dr. Karen Woo presented an in-depth account of various ongoing national quality and performance measures. These will all tie into outcomes-based reimbursements proposed for the coming years. VQI participation can be of benefit in small practices as a qualifying entity for participation in programs which will become mandatory and linked to reimbursements in the future.

Dr. Woo gave an extensive outline of MACRA – the Medicare Access & CHIP Reauthorization Act of 2015. This makes important changes to how Medicare pays providers: 1) Repeals the sustainable growth rate formula (SGR); 2) Makes a new framework for rewarding health care providers for giving better care not just more care and 3) Combines existing quality reporting programs into one new system. How this happens and is monitored is quite complex and will involve merit-based incentive (eventually penalties) payment systems (MIPS) and alternative payment models (APMs). The final rule was released on October 14, 2016 and is set to go into effect January 1, 2017.

Separate payment adjustments under PQRS, the Value-based Payment Modifier and the Medicare Electronic Health Record incentive programs will end 12/31/18. On 1/1/19 the MIPS and APM incentive payments begin.

The Alternative Payment Models will involve aspects such as lump-sum incentives, increased transparencies, Accountable Care Organizations, Patient Centered Medical Homes and bundled payment models.

Practitioners can participate in MIPS or meet requirements to be a qualifying APM participant. The overall MIPS score will combine Quality measures, Resource use, Clinical improvement, and EHR use. 2017 is a transitional year; need to report for a minimum of 90 continuous days. You need to report at least six measures to qualify. Several quality measures have been developed by the VQI including – percentage of patients prescribed statin after LEB, periop complications following AAA repair, etc.

Provider's participation in APMs can opt out of MIPS. Several large health systems may be seeking identification as APMs.

There will be “scaling for budget neutrality”

The VQI is a Qualified Clinical Data Registry (QDCR). This may help centers meet measures of reporting as required for MIPS.

This was meant as informational.

## **Data Managers Update** Karen Heaney

Ms. Heaney presented an update from the 1<sup>st</sup> data managers meeting at the SVS Annual meeting this past June. Overall the meeting was felt to be quite productive.

**New Medicine Registry:** This was presented at the national meeting. The inclusion criteria are outpatient consultations for PAD, carotid disease or AAA who are managed medically. Presumably if/when they undergo intervention they will transfer to another registry.

**Registry Analytics Enhancements:** Shared reported was released, as well as the “drill down” feature which allows easy identification of specific cases for review. Physician-level reporting should be out soon as well as longitudinal charting and Health system reporting. Review of how this is accessed on the internet was shown.

**Regional Data Managers Webinar Update:** At the last meeting, the grant received by the VQI to align definitions with the STS and ACC was discussed. Also some discussion on attendance at regional webinar was discussed. The decision was made to go to a quarterly schedule instead of bimonthly. There was discussion about definitions of “monitoring” in the CEA monitor. Does “back-bleeding” count as “other?” Can there be a field for return to OR for unrelated procedures, such as CABG, during the same hospitalization. The beta blocker fields are scheduled to be removed from all registries. The VQI is set to launch a QI Webinar Series on the science of quality improvement for physicians, data managers, and QI professionals.

**Data Extraction Examples:** These were presented at the national meeting and discussed in the regional webinar to clarify how to approach confusing scenarios to ensure standardized data extraction. Examples: hematoma following PVI which then led to hospitalization, followed by a TIA and CEA then an MI. Asked data managers how to code complications in reference to either the PVI, CEA or both. Other examples also discussed in groups.

## **2:30 Coffee Break**

### **Research:**

#### **National and Regional Update** (Ankur Chandra)

The national RAQ has approved 64 projects submitted by 51 unique investigators in 26 centers this year. These can be found at <http://www.vascularqualityinitiative.org/vqi-resource-library/research-advisory-committee/>. The application process has been streamlined and uses the Abstract123(AAG) abstract submission system.( <http://abstracts123.com/svs1/>)

All required documentation will be the same as previously submitted proposals:

- Abstract (100 words), incorporating why SVS-PSO dataset is necessary for the project
- NIH Biosketch of PI and any Co-Investigators
- Research Questions and/or Hypothesis

- Research Plan
  - o 3-5 pages
  - o Sub headers: Significance, Innovation, Approach; mock tables/figures included, along with potential problems/solutions
- Plan for Analytic Support
- Plan for IRB approval/exemption

Next submission cycle for national RAC:

Call for Proposals:       October 18, 2016

Due Date:                 Midnight November 23, 2016

Meeting:                 December 12, 2016

Notification Sent:       December 13, 2016

#### **Angiosome Project:**

Dr. Kenneth Ziegler presented a research proposal for the VOICe. He wishes to review the influence of specific angiosomic revascularization on outcomes following LE revascularization – looking at IB and PVI. He wishes to look at the influence of “direct” versus “indirect” revascularization and the influence of pedal arch anatomy. He wishes to use the VOICe to identify potential patients and then institute a multi-center study to get more granular data.

#### **Atherectomy in the VOICe:**

Dr. Karen Woo presented some data from an ongoing project evaluating atherectomy. This project has two arms. A description of the practice patterns has been accepted for the SoCal ACDS Cardiac/Vascular Specialty Section; a report on the complications has been submitted to the VESS meeting. Over 5 years, nearly 2100 PVI procedures have been entered in the VOICe. Nearly 1/3 included atherectomy. There was great variation in by-center use in patients undergoing PVI, ranging from 0-82%. Primarily the arteries treated were the SFA, popliteal and tibial. Complications were seen in nearly 10%: the types of complications included dissection in 7%, embolization in 3%, and perforation in 1.6%. Risks for complications included lesion length, number of lesions treated, TASC C/D, and SFA/popliteal location.

#### **Amputation project:**

Dr. Abou-Zamzam gave a brief review of the national project regarding outcomes following major amputations in the VQI. Over a three year period, 4,064 procedures were entered in the registry by 60 participating centers. Major LEA comprised 3,180 (78%) entries (AKA 1,372; TKA 43; BKA 1,765). The BKA:AKA ratio was 1.29:1. Prior ipsilateral PVI occurred in 31% and 24% had prior ipsilateral bypass. Indications for major LEA were ischemic rest pain or tissue loss (58%),

uncontrolled infection (31%), acute ischemia (9%), and neuropathic tissue loss (2%). Overall complication rate was 16% and 30-day mortality 6%. Discharge was to nursing home in 26%. Patients undergoing AKA compared to BKA were older, more frail, had increased severity of PAD, and greater 30-day mortality. This registry offers an important real world resource for studies pertaining to vascular surgery patients undergoing major lower extremity amputation.

This project will be presented at the winter VESS meeting in 2017.

#### **National VQI update** (Nadine Caputo)

Reviewed the information from the SVS VQI. There are 17 regional study groups. Overall 392 centers in 46 states + Ontario, Canada. Overall there are now over 322,000 procedures captured.

The VQI 1<sup>st</sup> annual meeting was held at the VAM on June 8, 2016. Feedback was positive. Participants wanted longer, more interactive sessions. Perhaps 1 ½ days next year with a full day agenda for data managers.

Participation awards results will be released in early 2017.

PVI registry update: This was released on September 23, 2016. You will notice the changes.

Medicine registry update: To include PAD, carotid stenosis and AAA. There was a webinar for comments in the fall. Release is now planned for Q2, 2017.

VQI webinar schedule: November - TEVAR/Complex EVAR vs. EVAR; December - QI guide implementation series.

EPIC update: There is an ongoing effort to integrate the VQI and EPIC. Dr. Stoner and Dr. Steppacher discussed EPIC-VQI integration in September at the annual EPIC Users' Group Meeting. Smart Data elements to capture VQI variables for CEA have been released. (Look at resource tab of VQI.) Elements for PVI are being constructed.

PSO EC update: Strategic planning focused on: Improving Quality and patient outcomes; Data accuracy and integrity; Optimizing participation and engagement; Long-term sustainability and operational effectiveness

#### **Arterial Quality Council Update:** (Karen Woo)

The significant update now allows physician-level reporting which will allow sites to analyze blinded physician results. The site-level reporting (Center Opportunity Profile for Improvement Reports) continues. In addition to spring and fall reports, two additional COPI reports – 30-day and 1-year mortality after CEA and CAS are being generate. The AQC has also published two surgeon-level reports:

percentage of high-risk patient receiving CEA; percentage of patients receiving f/u imaging after EVAR. The AQC is also discussing COPI report on hematoma after PVI and surgeon-level report on high-risk patients receiving CAS.

Online cardiac risk calculators developed through the VQI are available on QXMD:

<http://www.qxmd.com>

Current ongoing AQC work: finalizing PVI registry; updating CAS, Finalize Medicine registry; determining variables per registry that negate LTFU; data audits

**Venous Quality Council Update:** (Karen Woo)

A brief presentation of the venous registry was given. The IVC registry in 2014 entered 808 procedures. The varicose vein registry in 2015 entered 2972 procedures. CMS quality measure: appropriate management of retrievable IVC filters.

**Governing Council Update** (Karen Woo)

The governing council approved the policy of un-blinding LTFU reporting rates if a majority of members of the regional group agree.

M2S and Medstreaming provided an overview on what the acquisition of Medstreaming will afford VQI members: enhanced analytics, experience with data integration from EMRs, experience with outpatient data that complements M2S experience with inpatient data.

The new PSO Communications Committee is: Chair, Glen Jacobowitz from NYU and Vice Chair, Leila Mureege from Duke.

**Pathways Development Update:** (Deb Macaulay)

Drill down capabilities – several reports available: Both statin and Antiplatelet at Discharge;

Drill down permissions – physicians can only drill down on their own patients; A review of shared reports – what are available and where to find them. Remember to choose your view – physician or center level data.

EMR integration status: Varicose vein released – uses Medstreaming or Mtuitive; PVI planned Q4 2016; other registries planned in 2017

Post-approval studies: Sites can participate in these studies: TEVAR (dissection: Medtronic and Gore; 1 year still enrolling, five year closed); EVAR (Aorfix); CREST 2 registry for CAS; Bard peripheral LifeStent post-approval study; TransCarotid Revascularization Surveillance Project (TSP)

2016 QCDR Program: Individual participants who participate in 2016 PQRS through a QCDR may avoid 2018 negative payment adjustment. There are 26 measures available through the VQI. To successfully participate you must use 9 measures across 3 domains with 2 outcomes measures and have a reporting rate ≥50% in Medicare patients. 2015 patients must be followed up by 12/31/16.

This is the 5-year anniversary of the VQI!

### **Reporting Engine: (Ahmed Abou-Zamzam)**

A few screen shots were shown to demonstrate how simple it is for physicians to use the reporting engine in the VQI.

### **Wrap Up:**

#### **Wrap-up** (Ahmed Abou-Zamzam)

A round table discussion was held for the last part of the meeting. There was a general positive feeling about the panel discussion and on ways to explore future QI projects related to preoperative cardiac evaluation.

Dr. Chandra will plan to send out an email soliciting center's policies regarding management of perioperative hypertension and hypotension following CEA.

Soliciting more member involvement is the key to continued success of the study group. The members present were asked about their goals and ideas for future meetings; specifically what format they wished to have at the meetings. Initial feedback was positive for beginning with the regional data and finishing with national information.

We will return to having some presentations by high performers.

There was a proposal to have invited speakers. For the spring meeting perhaps inviting the speakers from the SCVSS meeting.

We discussed having more presentations from our group looking at the regional data as well as continuing to invite presentations from members participating in national projects.

An extensive post-meeting survey will be sent out.

The next meeting will be held in conjunction with the Southern California Vascular Surgery Society Meeting on May 5, 2017 at the Omni Rancho Las Palmas in Rancho Mirage, CA.

4:00

Adjourn