International Consortium of Vascular Registries

Monday, November 16, 2015
Cornell Club, NYC

Meeting Minutes

Kickoff Presentations (8:00 – 9:50 am):

Update on Post-market Surveillance of Vascular Devices – *Danica Marinac-Dabic, Ph.D., M.D.*

- Description of the MDEpiNet structure and relationships, including the public-private partnership
- Update on the National Medical Device Registry Task Force: registries are powerful tools for post-market device surveillance; integrated systems of registries are invaluable as opportunities to identify low-frequency outcomes in patient populations (Task Force document attached as enclosure)
- Update on the International Medical Device Regulators Forum: currently in phase 1; earlier this year, the working group produced an in-depth report of the current registry landscape to unanimous approval; there is a large amount of non-regulator involvement in the IMDRF
- Next month, MDEpiNet will kick off the National Planning Board

Discussion of Proposed Changes to the Common Rule – *Murray Sheldon, M.D.*

- Focus on post-market surveillance with increased efforts on evaluation of devices throughout their life cycle; two major questions are what do we need, and how do we get it?
- Introduction of UDIs to the device landscape will add detail to a patient's electronic health record and enable better tracking of which device is received by every individual patient
- To facilitate a system which is efficient and robust, a number of changes to the Common Rule have been proposed (full document available at https://federalregister.gov/a/2015-21756)
    - Increase transparency of informed consent
    - Mandatory consent for use of collected biospecimens (for future unspecified research)
    - Common Rule exclusions for low risk, already protected, or non-research activities
    - Add additional categories of IRB exempted research
    - Alteration of conditions for waiver of consent for biospecimen use
    - Mandate a single IRB for cooperative research within US institutions
    - Eliminate continuing review requirements for low-risk or completed studies
- Group discussion:
    - A relaxation of requirements for consent and review could benefit research greatly. Dr. Bjorck comments that strict requirements in Sweden have the effect of hindering research participation.
    - Increased transparency and breadth of consent might be a threat to participation/result in more participants declining the study. However, the current research environment is one of interest in

study participation. Patients want to participate, and it is our job to develop a culture of trust between researchers and participants.

Pre-Market Approvals of New Vascular Devices in Past 5 Years – *Pablo Morales, M.D.*

- Updates on recent approvals of medical devices in carotid artery stenting, thoracic aorta endograft, AAA endografts, and peripheral vascular stents
- The FDA has continued to promote and protect public health by assuring timely access to safe, effective and high quality devices and products; providing understandable and science based information to patients, care givers, consumers and providers; and collecting post-market information
- Group discussion on the philosophy and important of Unique Device Identifiers; currently experiencing difficulties with compliance and complete information in EHRs

RAPID: Registry Assessment of Peripheral Intervention Devices – *Jack Cronenwett, M.D.*

- Launched June 5th, 2015, with the goal of standardizing core data elements to evaluate peripheral vascular intervention devices in both pre- and post-market environments through partnerships with healthcare providers, device manufacturers, registries, and regulatory agencies
- Project plan:
    - Phase I: identify minimal set of core elements for registry assessment and develop a method for data extraction
    - Phase II: develop data extraction interoperability
    - Phase III: apply coordinated network to assist regulatory decisions, including RCT, premarket studies, follow-up studies, etc.
- RAPID working meeting held November 6th, 2015
- There is an opportunity for ICVR participation within RAPID phase 1, through assistance with reviewing and defining data elements for the core data set, and an invitation will be sent in December

Overview of the Japanese Vascular Landscape – *Masaaki Kato, M.D.*

- Overview of the Japanese Committee for Stent Graft Management (JACSM): a collaboration between 10 academic societies, started in 2005, to manage practice standards and grant surgeon/hospital permissions for EVAR and TEVAR
- The Japanese registry for EVAR started July 1st, 2006 and by 2013 had registered approximately 30,000 patients. The registry aims to have 10 year follow-up for all patients. Registry statistics have been calculated for patients registered in the first two years of operation (approximately 3,000 patients).
- The Japanese registry for TEVAR started in 2008 and currently has approximately 9,000 registered patients, but no registry statistics have been published at this time.

ICVR Project Discussions (9:50 am – 3:40 pm)

InVASC Carotid Project (9:50 – 11:30 am)

- Data overview, presented by Dr. Sedrakyan:
    - US data: some centers only submit data for either stenting or CEA, some centers only have the vascular group submitting data. New centers are continuing to join the VQI

    - Europe: only Sweden is robust and includes all procedures. Many countries don't have IR data. German data can be available by the end of January 2016.
- Data discussion:
    - Many countries have incomplete data due to factors such as missing centers, lack of integration with all specialties (i.e. cardiology, radiology), or difficulty with accuracy/validation. However, it is impractical to leave out all countries without perfect data, as too many countries would be excluded. Current project will focus on possible analysis with already existing data. Discussion of data integration and robustness can be applied to future data collection.
    - A new survey will be developed by the project team and distributed to each national registry representative to identify the state of their data (quality, completeness, any audits), variables being collected and their exact definitions, whether all specialists in the hospitals are included, whether consecutive procedures are included, whether all open and interventional procedures are captured at each site. Each workgroup can create its own survey to address important variables within that project.
    - Symptomatic vs. asymptomatic differences could be of value to address. There may be variation in the definitions of symptomatic between countries; this could be identified via the survey discussed previously. Whether evidence based practice was used for asymptomatic and symptomatic patients is a potential interesting topic to study.
    - Other variables of interest: age, gender, stenosis grade, general anesthesia. Comorbidities could be of interest when studying outcomes. Analysis to be performed in four subgroups—CEA among asymptomatic patients, CEA among symptomatic patients, stenting among asymptomatic patients and stenting among symptomatic patients
- FDA perspective: findings from these projects should be used to guide regulatory decision making, and lead to results which can apply to multiple stakeholders. The ICVR should seek out impactful topics with implications for the future of device use.

AAA Project (11:30 am – 12:30 pm)

- Data overview, presented by Dr. Sedrakyan:
    - Vascunet does not have a problem with inaccurate data in AAA.
    - VQI has the issue of new centers joining regularly over time, so that practice changes might reflect new centers and not change in practice of existing centers. Similar issue to Carotid data is that some centers only participate in one of open or EVAR registry but not both. These centers are to be excluded from those analyses that would compare EVAR vs. Open Treatment rates.
    - Canadian centers can participate in VQI, so VQI data includes a small number of Canadian centers.
    - There is a possibility for the Japanese registry to join this project and contribute data.
    - A survey as described during the Carotid project discussions will be developed and distributed by this work group.
- Data discussion:
    - Analysis will be stratified first by ruptured and intact AAA. Country and center level variations in treatment choice will be examined. Variations between countries are expected, as there may be difference in referral policy, screening policy and patient selection criteria.

- Other areas of interest include gender differences, diameter (categorize by >=5cm and >=5.5cm (women), stratify by gender), rupture prevalence in <5.5 cm
- Outcomes question available in tube vs. bifurcate, keeping in mind important confounders such as age, diameter, gender, etc.

Lunch 12:30 – 1:00 pm

InVASC PAOD Kickoff Discussion (1:00 – 2:00 pm)

- Dr. Bertges demonstrated PAD data collection and access via the web application. Difficulties with this registry include a very large number of patients and differences between types of providers which make data harmonization difficult.
- Dr. Debus introduced the Vascunet data collection structure, providing examples from published work (Daniel et al, De Martin et al, Lees et al) as well interim results from an ongoing study using a multi-center prospective observational registry of PTA intervention.
- Difficulties with the PAOD project include incomplete data, challenges with identifying PVI devices (can be assisted by industry representatives), laterality identification, multiple reoperations, and the wide variety of procedure types and outcomes.
- Next step would be to craft a survey to distribute to all registries which might participate to collect information on available data items for the retrospective study, and to finalize the study question given the variables which could be used.
- Data harmonization can be leveraged towards a potential prospective project, including modifying or adding data elements in participating registries moving forward. As peripheral procedures represent a much larger group, incentives may be required for compliance on a center level.

ICVR Prospective AAA Project Discussion (2:00 – 3:40)

- Most registries are able to participate in this project but there are problems with inconsistent follow-up, missing small but potentially relevant device details, etc. Changes to data collection will need to be made on a center level. The required variables need to be identified, defined, and distributed to participating centers so that collection can begin.
    - Group discussion regarding costs: Increased detail in data collection will represent additional costs on a center level; where will this additional funding originate? Centers could cover their own additional costs, and this could be a center-level rather than a country-level study. However, there is risk of patients switching centers so that follow-up could be lost.
    - Industry perspective: Comparative effectiveness research is complex, other factors to consider include patient anatomy data and the creation of a sampling plan for reliability testing. Industry is looking for a better vigilance system post-market, with a considerable interest in full life cycle monitoring. Registries might be able to provide an alternate or supplement for current industry MDR reporting which would be able to more accurately estimate rates of adverse events and potentially reduce costs. Further discussion of this with MDEpiNet is warranted.
    - Dr. Marinac-Dabic suggests that the project working group put together a plan to send to the MDEpiNet scientific oversight committee in order to get on board as a major project within the MDEpiNet infrastructure with a possibility for seed funding.

    - Drs. Beck and Mani will work on a core data set and distribute for comment; variables include demographics, comorbidities, neck diameter/length, and other device characteristics. Specific endpoints of interest should also be identified for prospective collection, such as rupture.
- Project discussion
    - Infra-renal vs. juxta-renal: infra-renal is simpler, consists of device-specific questions or comparison to open AAA with an infrarenal clamp. Juxta-renal is more difficult, with open versus endoscopic questions.
    - Endpoint events to be collected will focus on real world outcomes, including ruptures, endoleak, reintervention, etc. Longer follow-up and standardized follow-up is very desirable. It may be desirable to categorize outcomes as definite, probable and possible, such as whether device related in future projects
    - Group discussion on signal detection: good signals for adverse outcomes could reduce costs significantly. First, endpoints/outcomes need to be defined and to be evaluated on the feasibility of capturing them. If these signals can be captured reliably/efficiently, following steps afterwards will be discussed to improve device safety monitoring.
- Next step: Drs. Beck and Mani will write a project proposal with comments and suggestions incorporated, circulate via email and discuss at the Hamburg meeting. This proposal can also be distributed to MDEpiNet, registries, and industry stakeholders.

Transitioning from Process to Outcome Variation Studies (3:40 – 5:00 pm)

Experiences from the Vascunet Collaboration – *Martin Bjorck, M.D.*

- The Vascunet collaboration began in 1997 with a goal of initiating data collection, and later developed into a database system. It published vascular reports in 2004 and 2005. There was discussion on whether to report country-level variation. The 2005 report included some country-level reports.
- In Sweden, center-level variation has been reported for specific outcomes for many years. Centers typically respond to these reports favorably, and no center stays at the bottom of the list for longer than a year. In the Swedish experience, reporting on these outcomes variations allows the underperforming centers to address and repair issues in treatment practice. However, reporting on the physician level can be very problematic.

Use of Claims or National Data for Follow-up – *Maarit Venermo, M.D.*

- By linking Vascunet to national data, obtained date of death, cause of death, procedure information, and complication details. Linkages between different data sources are powerful ways to increase the depth of information available for research. However, data validation is a challenge.

Closing Discussions

- Reporting standards, unified variable definitions, and minimum data sets need to be established. Additionally, we need to decide whether registries will be asked to incorporate new data elements moving forward. ICVR could provide an excellent vehicle to develop a core minimum dataset for carotid and aortic device evaluation, similar to the RAPID project for peripheral devices.

- Regarding center-level reporting: within Vascunet, centers are unknown. Only national registries are able to identify individual centers. VQI is not permitted to release center-specific details, nor can centers use any center-specific details they learn through VQI participation in the public sphere. In the United States, publishing country-level outcomes presents no problem, but has low relevance.
- Project working groups will begin to create minimum data sets and project plans to be exchanged and discussed via email.
- ICVR leadership will compose a viewpoint paper on the perspective of international registry collaborations, including a short summary of the consortium's goals to add to the vascular knowledge base in the coming years. Draft will be developed by Dr. Sedrakyan.
- The fourth meeting of the ICVR will be held in Hamburg, Germany on May 18-19, 2016.