Quality and Safety Committee Report
January 2024

Executive Summary:

The Quality and Safety Committee goal for 2024 is to improve patient care by convening experts, increasing engagement, and expanding its quality and safety activities.

Informational Items:

1. New Q&S+I Lecture Series

Dr. Shlomit Goldberg-Stein introduces a new NYSRS Quality and Safety + Informatics Lecture Series. This will be a membership benefit and open to all trainees. The first lecture will be held virtually, featuring Dr. Nina Kottler on 2/8 at 5:30-6:30 PM EST.

TITLE: The Intersection of AI and Quality & Safety

OBJECTIVES:

- Depict why AI will be an important component of our profession
- Describe and assess the limitations of AI
- Highlight a hidden component of AI quality, AI orchestration
- Illustrate AI use cases in radiology
- Propose a vision for a tech enabled radiology future

BIO:

Dr. Kottler has been a practicing radiologist specializing in emergency imaging for over 18 years. Combining her clinical experience with a graduate degree in applied mathematics, she has been using technological innovation to drive value in radiology. As the first radiologist to join Radiology Partners, Dr. Kottler has held multiple leadership positions within her practice and is currently the associate Chief Medical Officer for Clinical AI. Dr. Kottler is also an associate fellow at the Stanford AIMI Center and serves on committees for RSNA, ACR, RADeqal, and SIIM. Dr. Kottler is passionate about promoting diversity and creating a culture of belonging. As an industry expert, Dr. Kottler consults for companies in aerospace, materials science, and healthcare and is a frequent international lecturer discussing imaging AI.

2. Our committee met virtually on 12/13/23 for one hour. We discussed the items reported below and compared notes on clinical implementation of AI.

3. We welcome a new Q&S committee member, Robert Pacheo, PGY-3 (Albany Medical).

Discussion Items:

1. The ACR National Radiology Data Registry (NRDR™) is a CMS-approved Qualified Clinical Data Registry (QCDR) for the Merit-Based Incentive Payment System (MIPS) for 2023.

Thirteen QCDR measures spanning across two NRDR data registries and 9 additional licensed measures have been approved for inclusion in the QCDR, along with 38 MIPS measures.

Recent ACR MIPS participation Webinar: https://www.acr.org/Advocacy-and-Economics/Advocacy-News/Advocacy-News-Issues/In-the-Oct-14-2023-Issue/2023-MIPS-Participation-Webinar-Available-Now

Jan. 31, 2024, is the deadline for users of the ACR QCDR to finalize data upload for the 2023 Merit-Based Incentive Payment System performance year. Reporting fees for MIPS will be billed the first week of January. Payment must be received before users are eligible to submit data to CMS. The deadline for finalizing payment and completing submission to CMS is March 31.

Users should review their measure data for accuracy and confirm their selections for Improvement Activities prior to submission. Once complete, users can review their MIPS preliminary score for 2023 to include Performance Improvement reweighting as well as small/rural practice status. The score will not include the Cost category, which is calculated and attributed by CMS after March 31.

2. RN in California injured in MRI incident:

https://padailypost.com/2023/10/20/kaiser-redwood-city-fined-after-mri-machine-injures-nurse/

“Once the patient was prepped, the nurse began to move the bed toward the door to the MRI room. However, the door was open, and as the nurse got closer to the door with the metal bed, she and the bed were suddenly flung toward the machine, pinning her between the machine and bed, according to various witness reports to Cal/OSHA.” Cal/OSHA fined Kaiser $18,000 for not having a plan to make sure the door between the prep area and MRI room stayed closed.

3. Contrast Safety

Update on Gadolinium Based Contrast Agent Safety, From the AJR Special Series on Contrast Media

Starekova et. al. review GBCA pharmokinetics and the four safety concerns with GBCA administration. Acute allergic-like reactions are the most common and concerning safety concern. Nephrogenic Systemic Sclerosis (NSF) occurs only in patients with kidney failure and after the use of Group 1 agents. The risk of NSF with Group 2 and Group 3 agent use is negligible regardless of renal function. Gadolinium deposition occurs in tissues (primarily the brain) regardless of type of agent used and regardless of real function. More deposition occurs with linear agents. Even within the same class of agent, there are varying amounts of deposition. However, no data supports adverse biological or clinical effects regardless of renal function. Symptoms Associated with Gadolinium Exposure (SAGE) is based on anecdotal evidence, without support from the literature. A direct causation is not supported by literature, and thus these symptoms are not described as a true disease entity—SAGE replaces gadolinium deposition disease. Future alternative agents based on Fe and Mn are potential GBCA replacements, but with the excellent safety profile of Group 2 and 3 agents, the risk of missing a diagnosis outweighs any potential harm from a GBCA.

Starekova J, Pirasteh A, Reeder SB. Update on Gadolinium Based Contrast Agent Safety, From the *AJR* Special Series on Contrast Media. *AJR* 2023 Oct 18 [https://doi.org/10.2214/AJR.23.30036]. Accepted manuscript. doi:10.2214/AJR.23.30036

Risk of Acute Kidney Injury Following IV Iodinated Contrast Media Exposure: 2023 Update, From the AJR Special Series on Contrast Media

McDonald et. al. review the current risk factors, prophylaxis, and management of CI-AKI and CA-AKI in regards to ICM. CI-AKI is AKI caused by contrast. CA-AKI is AKI that occurs coincidentally with a contrast administration. CI-AKI incidence and risk is overstated, and no evidence supports risk for CI-AKI in patients with eGFR $\geq$ 45 ml/min/1.73 m^2. Furthermore, CI-AKI does not increase the risk of CKI, dialysis, or mortality. Risk factor for CI-AKI is CKD. Risk factors for CA-AKI are CKD, DM, hypovolemia, nephrotoxins, hypotension, albuminuria, and heart failure. IV hydration is not effective in preventing CA-AKI in patients with moderate to severe renal insufficiency, but studies do not include eGFR<30. Little evidence supports stopping nephrotoxic medications prior to and after ICM. No “compelling” evidence to support use of IOCM over LOCM to reduce CI-AKI. Most current guidelines recommend eGFR cutoff of <30 to prevent risk of CI-AKI, “no specific cutoffs exist whereby ICM use is absolutely contraindicated.” CI-AKI risk is not an absolute contraindication to ICM administration—particularly where benefit exceeds risk.

McDonald JS, McDonald RJ. Risk of Acute Kidney Injury Following IV Iodinated Contrast Media Exposure: 2023 Update, From the *AJR* Special Series on Contrast Media. *AJR* 2023 Oct 4 [https://doi.org/10.2214/AJR.23.30037]. Accepted manuscript. doi:10.2214/AJR.23.30037

Management of Severe Allergic-Like Contrast Media Reactions: Pitfalls and Strategies, From the AJR Special Series on Contrast Media

Asch, et. al. reviews common pitfalls and tips for diagnosing and managing acute contrast reactions. The pitfalls described are:

1. Unmprepared to manage a reaction—not enough training, not reviewing treatment frequently enough, appropriate equipment and medications, availability of emergency response, use of quick visual aids in treating reactions.
2. Errors in medication administration—errors in not administering epinephrine fast enough, administering the wrong dose of epinephrine via the wrong route, failure to remember to use bronchodilators in bronchospasm, and not being trained in the use of autoinjectors (adult v ped, actual use).
3. Documentation—appropriate documentation includes type of reaction (physiologic vs alleric-like), severity (mild, moderate, severe), specific contrast agent, and treatment administered.
4. Adverse event that is not allerigic-like reaction—physiologic reactions can occur or other medical sympoms/conditions can occur that are unrelated to contrast.

Asch D, Callahan MJ, Thomas KL, Desai S, Pahade JK. Management of Severe Allergic-Like Contrast Media Reactions: Pitfalls and Strategies, From the *AJR* Special Series on Contrast Media. *AJR* 2023 Oct 11 [https://doi.org/10.2214/AJR.23.30044]. Accepted manuscript. doi:10.2214/AJR.23.30044

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