

ICD-10-CM Coordination and Maintenance
Committee Meeting



September 14th & 15th, 2021

Contrast-Induced Nephropathy

Alvin C. Powell, MD

Nephrologist

Chief Medical Officer, Annie Penn Hospital

Chief Health Equity Officer, Cone Health System

Greensboro, North Carolina

IV Contrast

- When patients undergo radiological studies, they often receive an intravenous (IV) radiocontrast material so that organs, and fluids, can be better visualized by CT scan or other imaging tests.
- IV contrast agent is safe for most patients with healthy kidneys; however, it can still be toxic and especially toxic to a patient with a history of impaired kidney function.

IV Contrast & Kidney Injury Risk

- Injury to the kidneys from contrast dye occurs approximately **2%** of the time (healthy kidneys).
- When kidney function is already impaired with chronic kidney disease, diabetes or hypertension the incidence of kidney injury from IV contrast increases to **30 to 40%**.
- The risk of kidney injury in people with both CKD and diabetes ranges from **20 to 50%**.

Contrast Induced Nephropathy (CIN)

- Condition associated with injury to the kidneys from iodinated radiocontrast
- Also known as Contrast Associated Nephropathy
- An iatrogenic cause of acute kidney injury (AKI)
- **3rd** leading cause of acute kidney injury in hospitalized patients

Contrast Induced Nephropathy (CIN) Defined

Contrast-induced nephropathy is most commonly defined as acute renal failure occurring within 48 hrs of exposure to intravascular radiographic contrast material that is not attributable to other causes

American Journal of Roentgenography

Resource: <https://www.ajronline.org/doi/full/10.2214/ajr.183.6.01831673>

A case and point

- We recently had a death at our institution related to contrast induced nephropathy (CIN). CIN was documented by the nephrologist; however, coding of CIN was nonspecific because there is not a more specific ICD-10-CM code.
- We attempted to identify the potential risk and scope of this problem throughout our institution and due to the nonspecific nature of the coding relative to CIN we are unable to.
- We recognized there were many patients at risk for this problem in the United States, as well as our health system, and with our current analytical technology we would like to be able to accurately account for the incidence or prevalence of CIN.

Contrast Induced Nephropathy (CIN) Health Equity

- We recognize that underlying chronic kidney disease is more common in patients of color.
- These patients are at higher risk for CIN.
- Without the ability to accurately code this diagnosis, we cannot identify a potential healthcare inequity which our healthcare systems may be unwittingly contributing to.

**Currently, there is no ICD-10 code that specifies
Contrast-Induced Nephropathy**

- Current codes are nonspecific, make it difficult to accurately query our data base, assess the magnitude of CIN and intervene to prevent harm.
- With the current ICD-10-CM coding classification it is not possible to accurately search for the answer to questions about patients who have had CIN.
- We were missing an opportunity to measure, monitor or intervene in this area.
- Correcting this gap would allow for accurate surveillance of CIN.

Thank you!

