Capital Health

IMPORTANT NEW PROCESS FOR DIAGNOSTIC IMAGING OUTPATIENTS

Contrast Enhanced CT and Prevention of Contrast Induced Nephropathy

PREVENTION OF CONTRAST INDUCED NEPHROPATHY:

CDHA Diagnostic Imaging Department has new guidelines for preventing **Contrast Induced Nephropathy** (CIN) which reflect national guidelines from the Canadian Association of Radiologists. The CDHA and CAR guidelines can be viewed at:

http://www.cdha.nshealth.ca/system/files/sites/83/documents/cdha-cin-prevention-guidelines.pdf

http://www.car.ca/uploads/standards%20guidelines/20110617_en_prevention_cin.pdf

To make a difference we need to make changes at the referral stage, in scan preparation and in post scan follow up. These changes will be implemented November 4, 2013. What these changes are and why we are doing this are explained below.

WHAT IS CONTRAST INDUCED NEPHROPATHY?

CIN is an acute deterioration in renal function following contrast administration. It is usually temporary but can result in sustained renal impairment. It is defined as *either*:

1. A rise in serum creatinine more than 25% above baseline within 24-72 hrs following contrast administration, or
2. A rise in serum creatinine by 44umol/L (0.5 mg/dL) over baseline within 48-72 hrs after contrast

WHAT PATIENTS ARE AT RISK OF CIN?

1. Patients with **pre-existing renal dysfunction** are at the highest risk of CIN.
2. Diabetics
3. Patients receiving large doses of iodinated contrast

HOW DO WE IDENTIFY PATIENTS AT RISK OF CIN?

We need to know the **eGFR** on patients with the **any of following chronic kidney disease risk factors**:

1. renal disease or solitary kidney
2. age over 70
3. diabetes
4. previous chemotherapy
5. organ transplant
6. cardiovascular disease (HTN,CHD, cardiac or peripheral vascular disease)
7. nephrotoxic drugs
8. human immunodeficiency syndrome or AIDS

WHAT DO I NEED TO DO DIFFERENTLY FROM BEFORE?

Outpatient contrast enhanced CT studies will now require ONE of the following before they are booked:

- **eGFR written on the requisition (from within last 6 months if stable, within 1 week if unstable)**
- **Completed "Contrast Media Injection Questionnaire"** (sample attached)

WHAT IF THERE IS NO RECENT eGFR?

1. Order the eGFR to be performed as soon as is practical with **yourself as the attending physician**
2. Tell us that eGFR has been ordered on the "Contrast Media Injection Questionnaire"
3. Fax the results to the appropriate CT booking office:

   902 473 6509 (QEII), 902 465 8360 (DGH), 902 869 6121 (Cobequid)

WHAT ARE THE PRE-SCAN PREVENTATIVE MEASURES?

For patients with renal dysfunction in whom the decision is made to give contrast, you will receive a fax asking you to help us with the following:

1. Encourage oral hydration 24 hours before and after CT examination
2. Hold loop diuretics 24 hours prior to CT, if possible
3. Hold nephrotoxic drugs 48 prior to CT, if possible

WHAT HAPPENS AFTER THE SCAN?

Your patient will be given a requisition to have renal function reassessed in 48 – 72 hours with results sent to you for review.

WHAT IF MY PATIENT TAKES METFORMIN?

Patients taking metformin who have:

- eGFR < 45ml/min/1.73m^2, or
- eGFR 45 – 59ml/min/1.73m^2 that receive a large dose of contrast (>100ml)

will be instructed to stop taking metformin following the CT examination. This should not be restarted until renal function is shown to be stable at 48 – 72 hours post CT. This is because of the increased risk of lactic acidosis should the patient develop CIN while taking metformin.

For more information, contact:

Dr Alan Brydie, Associate Head
CDHA Department of Diagnostic Imaging
Alan.Brydie@cdha.nshealth.ca

Vicki Sorhaindo, Manager CT
QEII HSC
Vicki.Sorhaindo@cdha.nshealth.ca