

# G

## Gadolinium

- Most common adverse effects (~1 %): nausea and vomiting, headaches, and urticaria.
- Risk of severe anaphylactic reaction: ~1 in 100,000–500,000.
- Should be avoided in patient with renal impairment (GFR <30 mL/min) for the risk of systemic nephrogenic sclerosis.
- No reported harmful effects in fetus during pregnancy or in newborn during breastfeeding.
- See also section “[Nephrogenic Systemic Fibrosis](#)”.

## Giant Cell Arteritis

- Aortic involvement occurs in 15 % of GCA patients.
- It usually manifests as annuloaortic ectasia or as an ascending aortic aneurysm that can extend into the aortic arch. Other possible manifestations are acute dissection, aortic valve insufficiency, or abdominal aortic aneurysm. Thoracic aortic aneurysms are usually a late complication of the disease.

- *CT*: (1) aortic wall enhancement (early stage); (2) useful to describe luminal changes (stenosis, occlusion, dilatation, aneurysmal formation), calcification (chronic stage), and mural thrombi.
- *MR*: (1) same capabilities of CT imaging; (2) demonstration of mural and perivascular edema (which reflects disease activity).
- *FDG-PET*: reveals abnormal uptake in the affected extracranial segments in more than one-half of affected patients.

## Glenn Shunt

- Also known as bidirectional cavopulmonary connection, it connects SVC to RPA.
- Second stage of surgical palliation in complex intracardiac congenital anomalies with functional single ventricle circulation.
- In case of restrictive/dysfunctioning RV is supporting pulmonary circulation by directing flow directly into RPA.
- Always look for pulmonary artery stenosis and SVC obstruction.
- In case of increased pulmonary pressure, there might be venovenous collateral (e.g., emiazygos, mammary vein, pericardial vein) redirecting flow to IVC territories, thus desaturating systemic blood.
- See also section “[Fontan intervention](#)”.

## Gray

- Dosimetric quantity representing the amount of energy absorbed per unit mass.
- One gray is the absorption of one joule of energy, in the form of ionizing radiation, per kilogram of matter.

## **Suggested Reading**

Holloway BJ et al (2011) Imaging of thoracic aortic disease. *Br J Radiol* 84:S338–S354

Warnes CA et al (2008) ACC/AHA 2008 guidelines for the management of adults with congenital heart disease. *Circulation* 118:e714–e833