

RENA-RAD Group: Nationwide French Radiological Network for Management of Rare peritoneal malignancies

Peritoneal malignancy MRI protocol

Preparation of patient: 6 hours fasting (No residue free regimen required).

Optional: oral contrast (no consensus, no validated data showing superiority, given according to radiologist's choice)

- Opacification with a hyperosmolar agent (polyethylene glycol or other) (1-1.5l)
- Opacification with an agent which has a superparamagnetic effect (blueberry juice, pineapple juice...) especially for the work of pseudomyxoma peritonei (PMP)

Patient installation: Decubitus or prone

Parenteral agents:

- paralytics : buscopan 40 mg IM or glucagon split in 2 doses (one at the beginning and the second just before administration of contrast, or drips diluted in 100 ml during the examination)
- Gadolinium chelate agents

Compulsory sequences: covering from diaphragmatic dome to pubis symphysis, two separate acquisitions, one for abdomen and the second for pelvis, with reconstruction in one slab sent to the PACS

- Axial diffusion, at least 2 b-values ($b=0$ or 50 and $b > 800$ s/mm²) (slice thickness = 4-5 mm, gap: minimum), and calculation of ADC map.
- Axial T2 weighted images: FAST/Turbo Spin Echo without fat saturation (slice thickness = 4-5 mm, gap: minimum)
- Axial et coronal 3D Gradient echo (Vibe, Lava etc...) or Dixon T1 Fat Saturated, 3 to 5 minutes after administration intravenous of gadolinium chelates (slice thickness = 2-3 mm, gap : minimum).

Optional sequences:

- Axial T2 weighted images: Single Shot FSE or TSE /HASTE especially if T2 TSE or FSE images are altered by artifacts or for work up of PMP
- Fat saturated T2 (for PMP)
- Coronal T2 weighted images
- Axial dynamics 4 phases 3D Gradient echo (Vibe, Lava etc...) or Dixon T1 Fat Saturated, centered on the abdomen (compulsory if suspicion of hepatic metastases, especially in case of peritoneal metastases from gastrointestinal origin)