**APPROPRIATE USE OF LIVER-SPECIFIC CONTRAST IN LIVER MRI:**
clinical, cost and safety considerations

Marvin Daglish, Arnie Drury, Christopher Lord. The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust

**BACKGROUND**
- Clinical demands on liver MRI to assess liver diseases is increasing.
- Liver-specific contrast agents (e.g. Primovist) offer benefits over non-specific agents (e.g. Dotarem) for lesion detection and characterisation.
- But this is offset by increased scanning time (hepatobiliary phase) and agent cost (£116 vs. £11 at RBCH).
- The European Society of Gastrointestinal and Abdominal Radiology (ESGAR) released a consensus statement (2016) on the use of liver-specific contrast.
- Safety concerns of linear contrast agent (e.g. Primovist) retention in brain and other tissues. MHRA advises limiting their use.

**INDICATORS**
- Appropriate agent use based on clinical information, MDT notes, previous imaging, clinical likelihood.

**TARGET**
- All contrast-enhanced liver MRIs to meet ESGAR recommendations.

**STANDARDS – ESGAR statement key points:**

**Non-specific contrast:**
- Small haemangioma vs. metastases.

**Liver-specific contrast:**
- Solid benign lesions (e.g. FNH) vs. metastases.
- Hepatocellular carcinoma vs. arterial pseudolesions.
- Delineation of primary liver tumours.

**Tumour response assessment:**
- Vascular phases more relevant than hepatobiliary.
- Either contrast agent for serial measurements of metastases.

**METHODOLOGY**
- Single centre retrospective review.
- Liver MRI studies performed January-May 2015 for comparison prior to release of ESGAR and MHRA statements.
- Electronic records and previous imaging reviewed.

**RESULTS**
- 92 contrast liver MRIs
- 90 used Primovist (98%)
- 38 studies (41%), all using Primovist, did not meet ESGAR guidance
- Estimated waste of £9367 p.a when Dotarem is not used instead

**DISCUSSION**
- Above findings have already had departmental impact at RBCH; a DGH that has very tight MRI capacity and performs many post-treatment scans incurring significant costs. In different clinical settings, there may be barriers in implementing the ESGAR recommendations as above. Consideration should be given to evolving safety concerns that may increasingly influence contrast use.

**REFERENCES:**