**Standardisation of breast MRI reports for local staging of breast cancer**

**Descriptor:**

This audit aims to standardise the breast Magnetic Resonance Imaging (MRI) reports with using a common reporting template. Standardisation is very important to facilitate communication between radiologists and clinical team.

**Background:**

Breast MRI is the most sensitive diagnostic method among the non-invasive diagnostic tools. It has high contrast resolution and can demonstrate not only the morphological changes but also physiological changes such as vascularity and contrast time relation. These procure very useful data about the breast lesions and their extension. Ionising radiation is not used unlike mammogram and gadolinium-based contrast agents have lower risk of adverse effects especially anaphylaxis. It is not implementer-dependent, can be reassessed similar to the other cross- sectional methods and multiple planes can be acquired (1).

Breast MRI reports may have high inter-observer and intra-observer variability. Therefore, using a common standard can be very useful for reducing discrepancies between the radiologists (2). There is no commonly accepted template for the MRI reports.

**The Cycle**

**The standard:**

For standardisation, Breast MRI guideline of American College of Radiology (ACR) are usually accepted and widely used (3).

As per the ACR guideline;

1- Amount of fibroglandular tissue and level of background parenchymal enhancement should be described on every breast MRI report.

2- Masses should be categorised according to their shapes, margins, internal enhancement characteristics.

3- Non-mass enhancement (NME) should be described as per their distribution and internal enhancement patterns.

4- Location and depth of the lesions should be described as well as distance from the nipple.

5-Associated features (nipple retraction and invasion, skin retraction, invasion and thickening, pectoralis muscle invasion, axillary lymphadenopathy, chest wall invasion, fat containing lesions (fat necrosis, hamartoma) should be described clearly.

6- Kinetic curve assessments should be mentioned with initial and delayed phases.

7- BIRADS assessment category should be stated at the end of the report between category 1- 6.

The full ACR atlas is quite detailed and hard to implement, therefore, a concise summary of the standard can be used as detailed below.

* 100% of MRI reports should include;
1. Indication for the examination
2. MRI technique
3. Succinct description of overall breast composition
4. Clear description of any important findings (as illustrated in the quick reference poster)
5. Comparison to previous examination(s)
6. Assessment
7. Management

**Target:**

100% of the breast MRI reports should fulfil all the criteria which are described above.

**Assess local practice**

**Indicators:**

The percentage of breast MRI reports which adhere to each of the standards.

**Data items to be collected:**

Each breast MRI report will be retrieved from Radiology information system (RIS). Non- contrast breast MRIs and high-risk screening MRIs will be excluded from the audit.

**Suggested number:**

All the eligible reports in the department within a definable period (e.g. 3 months). (approximately 50 reports).

**Suggestions for change if target not met:**

1. The results of this audit should be shared and discussed with the radiologists who assess and report breast MRIs.

2. Presentations should be done in the academic and other department meetings.

3. The audit to be repeated in 3 months

**Resources:**

Radiology information system (RIS) and Picture archiving computer system (PACS)

**References:**

1. Pooley RA. AAPM/RSNA physics tutorial for residents: fundamental physics of MR imaging. Radiographics. 2005;25 (4): 1087-99. - [doi:10.1148/rg.254055027](http://dx.doi.org/10.1148/rg.254055027)
2. Mann RM, Cho N, Moy L. Breast MRI: State of the Art. Radiology. 2019 Sep;292(3):520-536. doi: 10.1148/radiol.2019182947. Epub 2019 Jul 30. PMID: 31361209
3. https://www.acr.org/-/media/ACR/Files/RADS/BI-RADS/MRI-Reporting.pdf

**Submitted by:**

Ozan Asmakutlu

**Co-authors:**

Ozan Asmakutlu, Joan Butt