Day one, 19th August – BREAST IMAGING AND INTERVENTIONS PROGRAM – 2016

9.00 AM - 9.10 am – Introduction

9.10 am – 9.30 am: Anatomy: The basis of breast imaging

As is the anatomy, so is the imaging .Understanding the anatomy is crucial to appreciate the normal radiological features in breast imaging (Mammogram / US / MRI). When normal is clear then the pathology is perceived early.

This lecture addresses

1. Normal building blocks of breast

      i. Terminal ductal lobular units
     ii. Fibrosis tissue
   iii. Fat

2. Distribution and possible variation in relation to age and hormonal status.
3. Normal patterns of breast
4. Correlating MRI/US/Mammographic appearance.
5. Understand the origin of the cancer and where to look for it in imaging.
6. Understand the pathways of spread.

9.30 am-10 .15 am : Step by step reading of a mammogram

Methodology in the approach to reading a mammogram is a very important.

A good mammogram is crucial for good interpretation. Understanding the KV, MAS and the density of the breast and positioning techniques, are important to acquire a good image.

Understanding blind spots in mammography is essential to optimize the standard views and incorporate additional veins wherever required. Hanging protocols should be standardized for methodical viewing.

This lecture addresses the importance of history / clinical exam / hanging protocol, assessing adequacy, understanding normal patterns and follow a step by step approach to look for specific areas in a specific order to detect breast cancer early.

10.10 - 10.30am – Question time.

10.30 am - 11.30 am: Ultrasound knobology and standard criteria and terminology of ultrasound findings.

This lecture addresses

1. Machine and probe requirements.
    1. Understanding the knobology. Optimizing the settings. Focus / gain (etc) depth, frequency, harmonics and spatial compounding.
    2. Scanning techniques
    3. Ergonomics of the operator.
    4. This talk addresses the terminology used for the criteria which are used to differentiate benign and malignant lesions with examples.

Use of consistent terminology and clear communication of the ultrasound findings is critical in patient management. Many of the descriptors have been validated in several studies and ACR has developed a lexicon for findings seen by ultrasound. This includes terminology to describe the shape, orientation, margins, echogenicity, homogeneity, posterior acoustic features, boundary zone and effect on surrounding tissues on the breast lesions/ masses, blood flow characteristics etc.

11.30 am-12 .30 noon: Analysis of mass lesions

This lecture addresses the workflow for analyzing masses with a multimodality approach.

a) To define and characterize lesions with mammogram, ultrasound and MRI.

b) Workflow for additional views, breast ultrasound and MRI, and tissue biopsy whenever required.

12.30 pm– 1.00 pm Interaction time

1.00 pm – 2.00 pm – Lunch

2.00 pm to 3.00 pm : Standard MRI protocol, Step by step MRI reading, Diagnostic criteria.

This lecture addresses the Basic principles of magnetic resonance imaging, surface coils, time of examination, patient positioning, breast compression, field strength, T1 and T2 sequences, temporal, spatial resolution and slice orientation will be discussed. The hanging

protocol in the reading of MR examination and the diagnostic criteria to differentiate benign and malignant lesions with cases will be discussed.

3.00pm -3.20pm: Stereotactic Biopsy

Lesions that are non-palpable and not seen on ultrasound, need stereotactic guidance to biopsy

This lecture addresses the

1. Principles of stereotaxy
2. Available methods
3. Techniques
4. Placement of markers

3.20.00 pm – 3.40pm: Guided interventions.

Guided biopsy is the cornerstone in evaluating breast lesions. It is a skill that has to be acquired for good clinical practice in breast units. Unnecessary repeat procedures and excision biopsies can be avoided if a lesion can be biopsied under guidance.

This lecture will help the participant understand the principles of guided interventions and give a step by step approach to interventions. This lecture will be followed up with a workshop with hands on practice.

3.40 pm to 4.00 tea time

4.00 pm to Workshop

Day two, 20th August – BREAST IMAGING AND INTERVENTIONS PROGRAM – 2016

8.00 – 9.15 am: All about Calcifications

There are whole ranges of calcification that occur in the breast and not all of them are malignant. It is important to understand the path physiology of how calcifications are formed.

1. Morphology – Size, shape and numbers

2. Distribution and its clinical significance will be discussed

The entire range of calcification will be discussed with images and workflow with additional views, significance will be discussed.

Following this a clear understanding of calcifications (ie)

      1. Which ones to leave alone?
      2. Which ones to follow up?
      3. Which ones to biopsy?

9.15 am to 10.15 am : Benign lesions in the breast:
The clinical features, imaging findings and management of commonly seen lesions like Fibroadenoma's , breast cysts , phyllodes will be discussed in this lecture.

10.15 am to 10.30 am : Tea time

10. 30 am to 11.00 am : Evaluation and Management of nipple discharge

Nipple discharge is a very common symptom in clinical practice. A clear understanding of

the evaluation with emphasis on management will be presented.

11.00 am to 12.00 noon Understanding breast cancer

Breast cancer is very heterogeneous. Therefore the appearance on mammography / ultrasound and MRI vary from being circumscribed to spiculated lesions.

This presentation elucidates the heterogeneity in terms of cellularity, Extra cellular matrix, host reaction to tumor and water content which reflects in the imaging features.

12.00 pm –12.20 pm: Axillary nodal assessment.

Assessment of axillary nodal involvement is important in treatment planning

(ie) to do sentinel lymph node biopsy or axillary clearance.

     I.   Levels of Axillary lymph node
    II.   Normal Lymph node
   III.   Pathological features in lymph node

Role of cytology and histopathology of lymph nodes will be discussed.

1.30 pm to 2.30 pm: MR features of malignant lesions

This talk addresses the morphological features and kinetics of invasive breast cancer on MR . Different biologic subtypes account for the wide variation in MR features.

2.30 pm to 3.15 pm: Asymmetry and Architectural distortion on mammogram

Presents workflow for asymmetries and architectural distortion

This lecture shows a series of common findings like asymmetries, architectural distortion, breast masses.

a) To define and characterize lesions.

b) Workflow for additional views, breast ultrasound and MRI, and tissue biopsy whenever required.

3. 30 pm to 4.00: Best practice standards

Screening is done in asymptomatic women and diagnostic mammogram is a study that is done to evaluate a screen detected abnormality or clinical abnormality. Screening perceives an abnormality and diagnostic mammogram evaluates the perceived abnormality.

Understanding the difference will give clarity in reporting thereby avoiding the confusion that exists in our practice today.

This lecture will deliver clarity in perception and diagnosis and the standard Birads reporting format with examples.

Day three, 21st August – BREAST IMAGING AND INTERVENTIONS PROGRAM – 2016

8.00 am – 10.00 am Workshop

10.00 am to 10.30 am: Interaction and Tea Time

10.30 am to 12.30 pm: Discussion of mammogram cases. Multimodality approach.

12.30 pm to 1.00 pm: Lunch.

Meeting closes.