Breast Cancer Podcast

Ques 1: What is the incidence of Breast cancer?

8-10% lifetime risk for all women.

Ques 2: What are the risk factors for breast cancer?

Biggest risk factor is female sex. Second greatest risk factor is age. Family history and also genetics. With proven genetic mutations of BRCA gene, the risk for breast ca is 80 % as well as 60 % for ovarian ca.

The other risk factors which are important but do not influence the risk dramatically :

- Smoking,
- Alcohol,
- Breastfeeding as protector
- Age at menarche
- Age at menopause
- Hormonal use

Ques 3: How important is family history?

Family history refers to direct family members i.e. Mother, Sister or Daughter.

- If 1 member of direct family older than 50 has breast cancer, the risk increases to 12%
- 2 family members older than 50 increases to 18%
- 1 family member younger than 50 (premenopausal) risk increases to 22%
- With 2 family members younger than 50 risk increases to 40%.

4: What is the work-up for a suspected breast cancer?

Triple assessment that consists of Clinical assessment, Imaging and Histology. Imaging is done before biopsy as the assessment of the size of the tumor is important and a biopsy could cause bleeding that distorts the actual size.

5: What is the role of FNA vs Core needle biopsy?

if the clinical impression is that a lump is benign and the imaging agrees then FNA is indicated. If, however there is any doubt a core biopsy should be done as this can confirm malignancy as well as give valuable information regarding the biological behaviour of the tumor.

6: What information do you expect from your pathologist?

- Firstly, is the tumor benign or malignant? If malignant, is it a carcinoma in situ or invasive; is it ductal or lobular in origin? and does it have certain other characteristics as mucinous, scirrhous etc.
- The receptors Oestrogen and progesterone receptors are reported to the Allred Quick score and the Progesterone receptor is a positive predictor that anti-oestrogen treatment should be effective if it is more than 30% positive.
- HER or Cerb is a human epidermal growth factor indicates much higher recurrence rates.
- Ki-67 is a more exact assessment of proliferation and indicates which percentage of cells are in the mitotic process.

7: What is the next step for a diagnosed breast cancer?

The cancer has to be staged, which determines survival rate and influences treatment.

8: How do we stage breast cancer?

We use the TNM staging system. The T is for tumour size and Tumour invasiveness; N is number and site of lymph node involvement; and M is for the presence of metastasis.

9: What investigations are used for staging?

- Blood tests include FBC, LFT and Calcium.
- A CXR can reveal lung metastases.
- Abdominal and Pelvic ultrasound should be adequate to evaluate the abdominal cavity
- CT scan as well as PET SCAN are advanced investigations that are usually not indicated, since CXR and Ultrasound will show most metastatic disease. CT and PET CT are therefore only indicated if there is any doubt about the findings.

10: If no metastatic disease is found what is the treatment of the primary lesion?

A decision has to made whether the primary lesion is operable or inoperable. An important principle is that surgery should not be undertaken if the tumor cannot be removed with clear surgical margins and where the wound cannot be closed primarily.

11: If the primary lesion is inoperable but there is no metastatic disease, is surgery still an option for treatment?

Neo-adjuvant systemic therapy, in the form of chemotherapy or in certain circumstances, hormonal therapy, can be used to make the primary lesion operable.

12: What are the types of surgical options?

There are 2 surgical options namely Mastectomy or breast conservation. The only indication for breast conserving surgery is COSMESIS and therefore the end-result must be cosmetically viable. Breast conservation alone has a high local recurrence rate and thus should be followed by radiotherapy to decrease the risk of local recurrence.

13: What about the axillary lymph nodes?

If the axilla is not involved clinically or radiologically a sentinel node biopsy is indicated. If the axilla is clinically involved an axillary dissection of level 1 and 2, meaning below and posterior to pectoralis minor, is indicated unless there is further extensive involvement at a higher level.

14: What is the role of radiotherapy?

Radiotherapy is part of loco-regional control. Only the area that is radiated benefits by the treatment. Where higher recurrence rates are expected radiotherapy is used to control microscopic disease.

The main indication for radiotherapy for metastatic disease is with spinal cord compromise. If the vertebrae are involved by metastatic disease, vertebral collapse or fractures are a great risk and this can cause spinal cord damage. Brain metastases can also be radiated as the brain is in an enclosed bony compartment and thus any increase in pressure is dangerous.

15: What is the role of Chemo and Hormonal Therapy?

Chemo and hormonal therapy are used to treat systemic disease and are also used to prevent systemic recurrences. Thus, it is an adjunct therapy or an adjuvant therapy. Any nodal involvement requires adjuvant therapy. Lympho-vascular involvement and biologically aggressive tumors indicate the need for adjuvant systemic therapy.

16: When should adjuvant chemotherapy be started?

The best time to try and eradicate systemic spread is when you are dealing with the lowest possible tumor burden and this is as soon as possible after the surgery has been completed. So treatment should be started no later than 3-4 weeks after completion of the surgery. After 12 weeks post-surgery there is no benefit for adjuvant therapy.

17: How long should chemotherapy be administered?

Chemotherapy in a combination of several agents of which 5-Fluorouracil, Cyclophosphamide and Adriamycin are usually used is given in monthly cycles for 6 months. A newer regimen mostly used for younger and healthier patients is a combination of Cyclophosphamide and Adriamycin in monthly cycles for 4 months followed by a taxane weekly for 12 weeks.

18: What are the common hormonal agents used for breast cancer?

Hormonal therapy has evolved over the last few years and there are many new regimens. The most important are Selective oestrogen receptor modulators (SERM`s) of which Tamoxifen is an example – these are used in pre-menopausal women. In post-menopausal women, the Aromatase-inhibitors are use and the most commonly used are anastrasole or Letrosole The hormonal therapies are given daily for 5-10 years.