

## **TAMOXIFEN: Breast Cancer Chemoprevention.**

### **Indications**

To reduce the risk of breast cancer in women who are at raised (moderate / high) risk of breast cancer as a result of their family history, or as a result of carrying a BRCA1 or BRCA2 gene mutation.

### **Role of Primary Care:**

The decision as to whether a woman is eligible (her risk of breast cancer is sufficiently high) will be taken by secondary care or by the Regional Genetics Service (RGS), and communicated to the GP along with supporting written information. **GPs will not be expected to make this decision.**

Secondary care / RGS should have taken contra-indications and drug interactions into account when prescription was recommended. However there may be other relevant past medical history or risk factors evident from the primary care notes which secondary or tertiary care may not already be aware of; the GPs role is to check for these, and to prescribe.

### **Dose and course:**

Tamoxifen 20mg daily for 5 years (beneficial effect is likely to last for at least an additional 10 years).

### **Contra-indications:**

- Not generally recommended for women age <35 years.
- Personal history of Endometrial Carcinoma
- Personal history of DVT / PE
- Family history of DVT / PE (depends on significance of family history)
- 6 weeks prior to major surgical procedures
- Pregnancy; should be stopped at least 2 months prior to conception.
- Breast-feeding
- Previous allergic reaction

### **Major interactions (not an exhaustive list):**

- SSRIs: SSRIs will reduce efficacy of Tamoxifen.
- Anti-coagulants: May enhance anti-coagulant effect.

### **HRT / Contraception:**

- Women taking Tamoxifen should not be taking HRT or using hormonal methods of contraception: if contraception is needed, then non-hormonal methods should be used.

### **Advise women starting on Tamoxifen:**

- To seek review if they develop:
  - Post-menopausal bleeding
  - Other symptoms suggestive of endometrial malignancy
  - Symptoms suggestive of DVT / PE
  - Visual disturbance

- To stop Tamoxifen 2-3 months before trying for pregnancy, or 6 weeks prior to any major operation.

**Monitoring: There is NO routine monitoring necessary for patients on Tamoxifen.**

**NB: ANY WOMAN WHO DEVELOPS POST-MENOPAUSAL BLEEDING SHOULD BE REFERRED VIA FAST-TRACK FOR URGENT INVESTIGATION, AND TAMOXIFEN STOPPED. Consider urgent referral if intermenstrual bleeding or other symptoms suggestive of endometrial carcinoma.**

**Common side-effects:**

- Nausea: advise to take with food or milk. Usually settles within a few weeks.
- Hot flushes / sweats / hormonal effects: very common, may settle within a few months or may persist.
  - Treat with conservative measures: cooling measures, and reduction in tea / coffee / nicotine and alcohol. Could try clonidine.
  - Other pharmacological measures not appropriate (SSRIs / anti-depressants / HRT). If symptoms are unmanageable with conservative or non-pharmaceutical measures, Tamoxifen can be stopped.
- Other menopausal side effects: effects on libido and mood.
- Gynaecological:
  - Menstrual disturbance (periods may become heavier, or lighter, less painful or less frequent)
  - Increase in vaginal dryness, discharge or vulval itch
  - Pelvic pain: due to enlargement of fibroids or ovarian cysts.
- Leg cramps: but advice if any symptoms suggestive of DVT then need to come for review.

**Less common side effects:**

- DVT / PE
- Endometrial carcinoma
- Visual changes
- Voice changes
- Headaches: may reduce frequency of migraines

**Raloxifene:** This may be prescribed as an alternative to Tamoxifen in a small number of unusual cases e.g. Tamoxifen allergy. Advice should be sought from secondary care prior to prescribing.

**Supporting evidence:**

**Number needed to treat (NNT) at 10 years after the start of the 5 year course (all SERMs):**

**Overall, 42 women need to be treated to prevent 1 breast cancer.**

**The NNT is likely to be less than 42 in women in the high risk category.**

**Number needed to harm (5 years duration of treatment):**

**An additional 1 in 200 pre-menopausal women will develop a thrombo-embolic event**

**An additional 1 in 167 women will develop endometrial cancer.**