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A breast surgeon's guide to Breast Pain (BP) - the second commonest One-Stop breast problem

I see many women in the UK with breast pain (BP) and over the years, my medical understanding of how to explain its rationale and treatment has evolved. My key aims in a One-Stop breast clinic are to communicate clearly and reassure based on the current medical evidence.

Breast pain (BP) is like the "common cold". It affects 70-80% of women in the one-stop breast clinic, but rarely are we able to attribute it to a specific cause. That's because it is multifactorial. We do not know about genes predisposing to benign conditions, but there are likely to be other female members of one's family who have suffered from this syndrome.

BP is not a risk factor for breast cancer and is very rarely associated, occurring in about 0.4 - 0.8% of cases. Breast density (increased amounts of breast tissue) is a risk factor for breast cancer, and may be linked to persistent BP extending over 3 to 8 years. Larger breast volume is also a contributing factor with "increased strain" on connective tissue ligaments.

The onset of BP can be sudden in women in their 30's or 40's with only 15% occurring in post-menopausal women.

Overall BP is a benign condition without an obvious single cause, however it still requires assessment by a healthcare professional.

Cyclical BP - 70% of women (onset in 30's)

This is described as "coming and going" (cyclical) and an indicator for recurring BP later in life until one reaches menopause. It tends to be widespread in the breast occurring in more than one location. We attribute this type of BP to the increased hormonal sensitivity of normal breast tissue of unknown causes. Blood hormone levels are normal and there is no evidence of breast disease.

Possible contributing factors are:

- **Hormonal stimuli:** Hormonal medications, oral contraceptives and infertility treatments, pregnancy, breast feeding, Hormone replacement therapy (HRT)
- **Medications:** Antidepressants such as Selective Serotonin Uptake Inhibitors

Up to 20% of BP will resolve within 3 months, and 60% of BP will recur within 3 years.

Older onset BP - 25% of women (onset in 40's)

This is more constant and is localised to a "trigger spot" or a single area particularly in the central nipple region and in the lower inner breast.

This type of BP is more likely to be "inflammatory" which isn't due to a bacterial infection, but rather to a "chemical phenomenon" that occurs in the aging breast ducts where the walls of the hollow breast ducts (milk ducts) become thin causing duct dilatation called "duct ectasia". A chemical inflammation occurs due to stagnant breast duct secretions and can cause local BP.

Constant BP usually isn't hormonal, and 50% resolves spontaneously.

Why should BP occur in only one breast?

Embryology (development of the human embryo) explains this because it provides a logical explanation. We develop in two potentially symmetrical halves from the spine behind, extending to the front of our bodies to join in the midline. Therefore, none of us are totally symmetrical! This applies to face, hands, feet or breasts!

Each milk duct line is developmentally separate extending from the armpit to the groin on the right and on the left, respectively. So our breasts aren't symmetrical in shape, size or in the amounts of breast tissue they contain and in biochemical responses to particular triggers.

The breast tissue within each breast is not equivalent. Most breast tissue is located in the upper outer breast, central breast and where the breast attaches to the chest wall, called the infra-mammary fold. This means that each breast has its own potential to develop cyclical or constant BP.

In fact, most BP is one-sided in 76% and affects both breasts in 24% of patients.

Treatments

A comprehensive overview of all randomised trials looking at treatments for BP have provided clear evidence for the following recommendations:

First line treatment for BP: **Topical Voltarol gel** which is a non-steroidal anti-inflammatory where there is far greater benefit compared to unwanted side-effects. There is one randomised clinical trial. The magnitude of the benefit on BP from a number of studies showed a 70-92% reduction in pain.

Second line treatment: **Selective Oestrogen Receptor Modulators (SERMS)**.

Raloxifene was shown in trials to prevent breast cancer and to treat osteoporosis. It acts by selectively blocking the estrogen receptor The recommended dose for treating BP is recommended at half the dose routinely used in preventing osteoporosis (30 mg orally daily) for 6 months. It can reduce BP up to 92%.

The other SERM option is **Tamoxifen**, the drug we use to treat breast cancer patients, that can be used at half the dose (10 mg orally daily) for 6 months. Tamoxifen is however less effective than Raloxifene in reducing BP (45% versus 92%) and has more side-effects.

Neither Raloxifene nor Tamoxifen are registered for BP treatment despite having been shown to be effective in randomised clinical trials. Raloxifene is a preferred second-line choice for severe BP as it is associated with fewer side effects than Tamoxifen.

Both above treatments should only be used under the supervision of your surgeon and ONLY in those women where Voltarol gel is ineffective, or their BP is severe and is affecting a woman's quality of life.

You should still get your breast pain assessed by your doctor or another health professional.

References

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