Abstract: P6

The effect of tamoxifen on endometrial thickness and endometrial histology

Z. Rayter [a,*], M. Watt [b], S. Keay [b], J. Jenkins [b], P. Wardle [b], J. Pawade [c], P. Newcombe [d]

[a] *Bristol Breast Unit, Bristol Royal Infirmary, Bristol, UK*
[b] *Department of Reproductive Medicine, St Michael's Hospital, Bristol, UK*
[c] *Department of Histopathology, Bristol Royal Infirmary, Bristol, UK*
[d] *University Department of Surgery, Bristol, UK*

1. Introduction

Prolonged therapy with tamoxifen gives rise to endometrial abnormalities and increases the risk of endometrial cancer.

2. Object

The purpose of this prospective study was to investigate the time course over which endometrial changes occurred, the histological changes which occurred and to investigate whether these changes were mediated by insulin-like growth factor I (IGF-I).

3. Materials and methods

Patients requiring adjuvant tamoxifen as part of their normal treatment for breast cancer underwent baseline pelvic examination, transvaginal ultrasound scanning (TVUS) to measure endometrial thickness (ET) and biopsy for histology and IGF-I expression if ET was >7 mm. Subsequent TVUS (and biopsy if ET >7 mm), was performed at 1, 2, 3, 6, 12, 24 and 36 months. Biopsy material was stained by haematoxylin and eosin (H&E) for histology and with an antibody to IGF-I. 27 patients have been studied for a mean of 17 months (range: 3–36).

4. Results

The mean ET has increased from 3.45 mm before tamoxifen (0 months) to 4.99, 5.7, 5.3, 4.98, 4.85, 5.55 and 6.6 mm at 1, 2, 3, 6, 12, 24 and 36 months. During therapy with tamoxifen, a $>100\%$ increase in ET had occurred in 41, 50 and 40% of women after 6, 12 and 24 months of therapy. 7 patients underwent a total of 14 biopsies, 5 (36%) of which were inadequate and occurred in 3 patients. Of the 4 patients in whom diagnostic material was obtained (9 biopsies), 2 patients exhibited secretory changes after 4 and 12 months, 1 developed complex hyperplasia after 22 months and 1 developed hyperplasia without atypia after 14 months and underwent a hysterectomy. 2 other patients who did not have a biopsy (ET <7 mm) underwent a hysterectomy for vaginal bleeding, 1 for endometrioid carcinoma and 1 for benign changes. Immunohistochemical staining with an IGF-1 antibody showed strong expression of IGF-1 by endometrial glands but no expression by stromal cells in polyps and the endometrioid cancer. However, weak stromal expression was found in decidualised stroma.

5. Conclusion

Tamoxifen therapy is associated with an initial rapid rise in ET, which continues to increase with duration of use. Histological changes can be identified before symptoms occur but the 3 patients who subsequently underwent hysterectomy did so because of investigation of vaginal bleeding. Preliminary data confirm that expression of IGF-1 is mostly confined to endometrial glandular tissue.

* Corresponding author.
E-mail address: zenon.rayter@ubht.swest.nhs.uk (Z. Rayter).

0959-8049/00/$ - see front matter
PII: S0959-8049(00)00252-5