Conclusions: There were high rates of MSk pain following the first cycle of docetaxel. Over half of these had moderate to severe pain that was not controlled with the use of simple analgesia. Most of these did not have access to stronger analgesics simply because they were not prescribed. The incidence of MSk pain was reduced with subsequent cycles possibly due to anticipation and improved analgesia. Better patient education and the pre-emptive prescribing of appropriate analgesia for the first cycle of docetaxel is important in order to improve tolerability. There was only a slightly higher incidence of grade 2 and 3 symptoms in those patients also receiving G-CSF. In view of the incidence of FN and that there was not an over-representation of grade 2 and 3 MSk symptoms in patients receiving G-CSF, consideration should be made to give G-CSF to all patients receiving the FEC-D regimen.

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The serious uncommon side effects after radiotherapy in early breast cancer

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Background: The early and late serious side effects after radiotherapy in early breast cancer are rare (2−3%). The early most serious of them are pneumonia after radiotherapy in the treatment field and extremely rare Bronchiolitis Obliterans Organizing Pneumonia (BOOP) out of the treatment field. The late serious complications are brachial plexus injury, cardiovascular events or radiation-induced sarcomas.

Purpose: Presentation of serious uncommon side effects in early breast cancer patients after breast conservation therapy treated in Institute of Oncology in Warsaw.

Material and Methods: From 1995 to 2006 1493 early breast cancer patients with breast conservation therapy were treated. There were observed one case of BOOP and three cases of radiation-induced sarcomas of breast. The other serious side effects were not observed. The BOOP syndrome histological verified appeared 3 months after radiotherapy. In three other cases, angiosarcomas of breast without metastasis were diagnosed 10, 5 and 4.5 years after radiotherapy.

Results: In case of BOOP after two years of steroids treatment there was not permanent improvement. Only complete remission appeared when antibiotics of macrolides group were administered. In all three women with angiosarcoma of the breast simple mastectomies were performed and they are without recurrence since 1 to 3 years after treatment.

Conclusion: The proper diagnosis of serious uncommon side effects after radiotherapy in early breast cancer and suitable treatment may get benefit for patients.

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The change of bone mineral density during aromatase inhibitor therapy alone and combining zoledronic acid in postmenopausal Korean breast cancer patients

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Background: Aromatase inhibitor (AI) is effective in postmenopausal women with estrogen receptor positive breast cancer, however it may cause bone loss and increase fracture risk. Zoledronic acid (ZA) has been shown to maintain or increase bone mineral density (BMD) in postmenopausal breast cancer patients receiving adjuvant AI. Distribution of age with breast cancer in Korea is different with that in Western, the rate of below the age of 60 and recently menopausal women are high. The aim of this study is evaluate of BMD change in Korean breast cancer patients treated with AI alone or combining ZA.

Material and Methods: Changes of BMD in lumbar spine and hip were evaluated 111 patients receiving AI treatment. 61 of them treated with ZA and 50 patients receiving AI alone. BMD was assessed at baseline and after 12 and 24 months and result were expressed as mean percentage change of BMD.

Results: The mean age of 111 patients was 54.6 years (range 42−75; 63 patients $\leqslant$55 years and 48 patients >55), the median follow-up period was 26.4 months (13−61), the mean BMD at baseline in lumbar spine was 0.9208g/cm^2 and 0.7911g/cm^2 in hip. In AI alone group, there were significant (all $p < 0.001$) losses of BMD at lumbar spine and hip, both at 12 months (3.8% and 3.0%, respectively) 24 months (4.6% and 4.3%, respectively), whereas in AI combining ZA group, there were significant (all $p < 0.001$) gains (2.5% and 1.0%, respectively at 12 months; 4.6% and 2.3%, respectively, at 24 months). The loss of BMD at lumbar spine tended to be large in below the age of 55 at 12 months (4.2% in $\leqslant$55 years and 3.1% in >55, p =0.495) but there was not difference at 24 months (4.6% in $\leqslant$55 years and 4.5% in >55, p =0.980).

The gap of bone loss at the lumbar spine was larger than patients with normal baseline BMD than osteopenic patients (5.7% and 1.8% respectively at 12 months, $p = 0.005$; 7.6% and 1.0%, respectively, at 24 months, $p = 0.032$). During follow up periods nobody experienced bone fracture.

Conclusions: ZA inhibits effectively AI associated bone loss. The bone loss in Korean breast cancer patients treated with AI alone seems to be larger than ATAC data, because of relatively high proportion of recently menopausal patients. However, for the evaluation of meaning of larger loss of BMD and risk of fracture, further large number of prospective studies and long-term follow up data are required.

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Chemotherapy-induced venous thromboembolism is not due to endothelial cell activation

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Background: Venous thromboembolism (VTE) during breast cancer chemotherapy occurs in up to 8% of early and 17% of advanced breast cancer patients and is the cause of death in 9% of advanced breast cancer patients receiving chemotherapy. It has been hypothesised that chemotherapy induces a hypercoagulable effect though endothelial cell activation, as demonstrated clinically by local thrombophlebitis.

Material and Methods: Serum markers of endothelial cell activation (E-selectin (E-sel) and vascular cell adhesion molecule-1 (VCAM-1)) were measured prior to chemotherapy and at one, four and eight days following commencement of chemotherapy in breast cancer patients (n = 132). Duplex ultrasound imaging was performed one month following commencement of chemotherapy or if symptoms of VTE developed.

Results: See the table. VCAM but not E-sel was elevated at all timepoints in the group that subsequently developed VTE (p: 0.02−0.1). Levels of E-sel and VCAM significantly decreased in the eight days following administration of chemotherapy ($p < 0.001$). The trend for decreasing serum endothelial cell markers following chemotherapy was seen in patients who developed VTE and patients who remained free of VTE. There was no difference in the trend over time for markers of endothelial cell activation following chemotherapy in patients with and without subsequent VTE.

	Geometric mean (CI)			
	Baseline	Day 1	Day 4	Day 8
E-sel (ng/ml)				
VTE (n = 11)	29.0 (17.7−47.5)	29.3 (17.1−50.4)	27.5 (17.5−43.3)	21.0 (13.1−33.8)
No VTE (n = 121)	29.5 (26.9−32.4)	28.2 (25.6−31.0)	24.9 (22.7−27.4)	22.4 (20.3−24.7)
p	0.9	0.8	0.6	0.7
VCAM−1 (ng/ml)				
VTE (n = 11)	767 (612−960)	775 (629−956)	752 (630−898)	705 (572−863)
No VTE (n = 121)	639 (596−685)	575 (533−620)	591 (550−635)	571 (534−611)
p	0.1	0.02	0.05	0.1

Conclusion: Chemotherapy induces endothelial cell activation, however this is not the mechanism for development of chemotherapy-induced venous thromboembolism.

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New views on treatment of aromatase inhibitors induced arthralgia

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Background: Aromatase Inhibitor (AI) induced arthralgia is one of the most frequent side effects in breast cancer hormonal therapy, which may become severe in some cases affecting patients' quality of life. The purpose of this study is to investigate alternative treatment of arthralgia, as current treatment options may often prove to be inadequate.

Material and Methods: According to Morales et al, AI-associated arthralgia syndrome is characterized by tenosynovial changes in MRI, including fluid in tendon sheaths and joints. Initially we prescribed furosemide to patients with this syndrome, especially if they were complaining for peripheral edema. The results showed that 14/16 patients had improved by this treatment. In this retrospective study, data from 288