2333 Radiotherapy for Herpes Zoster (HZ) in the Acute Phase: A Retrospective Study with Long Follow-Up

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Purpose/Objective: A retrospective study has been undertaken to study the efficiency and safety of radiotherapy for the treatment of HZ in the acute phase as well as to identify predictor factors for the occurrence of post herpetic neuralgia (PHN) and the risk of malignant tumour.

Materials/Methods: One hundred and eight patients were treated between January 1975 and November 2003 in the acute phase (1–30 days from the onset of rashes), 54 (50%) patients were in the group A (1–7 days), and 54 (50%) patients were in the group B (8–30 days). The median age was 66.5 years (range 17–89) for group A, and 67.5 years (range 30–88) for group B.

The patients were asked to rank any discomfort connected to the dermatome concerned as none, noticeable, mild, moderate, or severe. The corresponding numerical values were also defined for the patients: no pain= 0, noticeable= 1, mild pain= 2 moderate pain= 3 and severe pain= 4. The follow-up was conducted by the radiation oncologist or by general practitioners.

Results: Assessment of acute pain.

Proportions of patients with pain at the end of RT were 77.1% for group A and 82.4% for group B.

Assessment of Postherpetic Neuralgia.

At three months, six months and at least one year after the end of RT, the PHN were 25%, 20.8%, and 12 % for group B, 10.3%, 10.3% and 6.7% for group A. No patients show severe pain at $>$ 6 months.

Results of the multivariate analyses showed that, when controlling for age and gender, the risk of having pain three months after treatment was 2.67 higher in patients of group B compared to patients from group A. Further, this risk decreased to around 2 after 6 months and one year or more. Radiotherapy had an important effect on pain in both, patients older than 60 years and younger patients, with 100% pain free.

Conclusions: This is the first retrospective cohort study in unselected patients which were treated with radiotherapy(RT). To our knowledge, this study has the longest follow-up to date. This study shows that RT is very efficient in treating HZ, at least as much antiviral drugs. RT is safe and no malignant tumor related RT was observed. In the future our results should be controlled in a randomized trial with or without antiviral therapy in high risk patients. The combination treatment with the well known antiproliferative and the anti-inflammatory effects of radiation might improve the PHN.

2334 Prognostic Factors in Low-Dose Radiotherapy (RT) For Painful Heel Spurs - A Multicenter Study of 502 Patients

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Purpose/Objective: Heel spur is an exostotic plantar bone formation at the insertion of the plantar fascia and muscles of the calf. The overall prevalence is estimated between 8% and 10%. Orthopedic shoes or insoles, local infiltration with corticoid crystal suspensions, local anaesthesia, systemic non-steroidal anti-inflammatory agents (NSAIDs), iontophoresis, microwave and ultrasound applications are common treatment modalities. Radiotherapy is known for excellent results in painful heel spurs, but prospective controlled studies are still missing. The aim of this retrospective clinical cohort study was to analyse prognostic factors for long-term treatment success following low-dose radiotherapy (RT) for painful heel spurs.

Materials/Methods: A total of 337 women and 165 men were irradiated for 544 painful heel spurs in one (414) or two radiation series (88). In 341 patients RT was performed twice a week via a single 6-MV photon field, in 161 patients three times a week via a single 175-KV X-ray field. With 6-MV 10 fractions of 0.5 Gy were applied in 100 patients, 5 to 6 fractions of 1.0 Gy were applied in 140 patients. With 10 MV 4 fractions of 1.0 Gy following 2 fractions of 0.25 Gy and one fraction of 0.5 Gy were applied in 101 patients. In all patients treated with 175-KV X-rays 6 fractions of 1.0 Gy were applied. Clinical evaluation was done using the four-item von Pannewitz-Score (pain free, substantially improved, slightly improved, and unchanged). Statistical analysis of long-term results were analysed as time-event curves by Kaplan-Meier method. Events were defined as (1) slightly improved or unchanged pain after therapy, or (2) recurrent pain sensations during follow-up period. Analysis of prognostic factors was done by univariate log-rank test and Cox-regression (multivariate backward analysis) with inclusion of pain history, age, single dose, photon energy, prior treatments, gender and the number of treatment series.

Results: The median follow-up was 26 months, ranging from 1 to 103 months. Overall 8-year event free rate were 60.9%. 8-year event free rate of patients with one/two series (414/88) were 69.7%/32.2% (p=0.00001), $>$58/$\leq$ 58 years (236/266)−81.3%/47.9% (p=0.0008), men/women (165/337)−61.2%/ 61.5% (p=0,05), pain anamnesis $\leq$ 6 months/$>$ 6 months (308/194)−76.3%/43.9% (p=0.0013), megavoltage/orthovoltage (341/161)−67.9%/60.6% (p=0.0193), without/with prior treatment (121/381)−83.1%/54.9% (p=0.0232) and single dose 0.5/1.0 Gy (100/401)−86.2%/63.3% (p=0.006). The multivariate cox-regression analysis revealed patients with only one treatment series (p=0.001), an age $>$ 58 years (p=0.001) and men (p=0.035) to be significant prognostic factors for pain relief. No side effects have been observed.

Conclusions: Overall low dose RT is a very effective treatment in painful heel spurs both with orthovolt and megavolt units. RT should not be regarded as "last resort", thus it is recommended begin during the first 6 months of symptoms. The significant advantage in patients older than 58 years remains unclear. Controlled prospective studies should assess the effect of RT by comparison with sham treatments to rule out the possible role of placebo effects.