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HIFU FOR THYROID NODULES AN EFFECTIVE THERAPY FOR THE VOLUME REDUCTION OF THYROID NODULES

Introduction:

Thermoablative therapies have been established as additional therapy options for thyroid nodules with local symptoms in comparison to thyroid surgery or radioiodine therapy in the last years. Therefore we used and analysed the HIFU therapy as a mean for the volume reduction of thyroid nodules.

Methods:

Since January 2019 we used the HIFU device of Theraclion SA (92240 Malakoff, France) for the therapy of thyroid nodules and fibroadenomas of the female breast. Only patients with local symptoms and often visible cervical protrusion underwent a therapeutic procedure. The volume of the thyroid nodules were analysed by two independent investigators 4, 12 and 36 weeks after therapy using ultrasound (My lab 9, Esaote, 15 MHZ) and the results were compared to the nodule volume before echotherapy. All possible side effects were registered as well as a possible palsy of the N laryngeus recurrens. We further analysed the statistical relation between the dose administered and the pretherapeutic volume. The statistical analysis was performed using Statistica 10, the significance level was defined with $p < 0,05$.

Results:

75 patients were treated in the time period. 36 weeks after the therapy 52 patients could be analysed (male 6, female 46). The pretherapeutic volume of the total volume was 26 ± 10 (ml), the pretherapeutic volume of the thyroid nodules volume was $4,9 \pm 2,6$ (ml) , after 4 weeks $2,6 \pm 0,76$ (ml) and after 36 weeks $0,6 \pm 0,1$ ml. (t-Test pretherapeutic volume//thyroid nodule volume after 36 weeks $p > 0,0003$). The mean volume reduction was 58 ± 12 %. Furthermore a good correlation between the administered dose and the pretherapeutic volume could be shown. A significant drop of the administered dose could only be found for thyroid volume greater than 16 ml.

Conclusio:

HIFU therapy is a great non surgical therapy for thyroid nodules without any side effects discovered. After 36 weeks a good reduction of the thyroid nodule could be seen, even with thyroid volumes up to 16 ml. At all patients an improvement of the local symptoms could be observed without recognizable side effects.