SC82 Medium term oncological outcomes in a large cohort of men treated with either focal- or hemi-ablation with HIFU for primary localized prostate cancer

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Aim of the study: To report medium-term oncological outcomes in patients receiving primary focal treatment with HIFU for PCa.
Materials and methods: Consecutive men treated by means of primary focal HIFU for PCa at two centres by 6 treating clinicians were prospectively collected. Patients were submitted to either a focal ablation or hemiablation using HIFU (Sonablate 500). The primary objective of the study was to assess medium-term oncological outcomes defined as overall survival, freedom from biopsy failure, freedom from any further treatment and freedom from radical treatment after focal HIFU. The secondary objective was to evaluate the changes in pathological features among patients treated by means of focal HIFU over time. We finally assessed the relationship between year of surgery and 5-years retreatment probability.
Results: One thousand and thirty-two men treated between November 2005 and October 2017 were assessed. The median age was 65 yrs and median prostate-specific antigen was 7 ng/ml. The majority of patients had Gleason score of 3 + 4 (63%). Median follow-up was 36 months (IQR: 14–64). The overall survival at 24, 60 and 96 months was 99%, 97% and 97%, respectively. Freedom from biopsy failure, defined as absence of Gleason 3 + 4 disease, was 84%, 64% and 54% at 24, 60 and 96 months. Freedom from any further treatment was 85, 59 and 46% at 24, 60 and 96 months, respectively. Roughly 70% of patients retreated received a re-application of focal approach. Freedom from radical treatment was 98%, 91% and 81% at 24, 60 and 96 months. During the study period we have seen an increase in the proportion of patients undergoing focal HIFU with Gleason 3 + 4 disease and with T2 mpMRI staged disease. Finally, we report a reduction over time in the proportion of men undergoing re-treatment within 5-years of first treatment.
Discussion: Focal therapy for PCa using HIFU as energy source is a feasible therapeutic strategy with acceptable survival and oncological results at medium term, at least for men with up to intermediate risk disease, that appears improving over time. Re-do focal treatment is a feasible technique whose functional and oncological outcomes are under longer term evaluation.

SC83 Long term oncological outcomes of cryotherapy and HIFU in whole gland and first line treatment for localized prostate cancer

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Aim of the study: Cryotherapy and High-Intensity Focused Ultrasound (HIFU) are two alternatives to surgical or radiotherapy in the treatment of localized prostate cancer. Both techniques are being investigated but had never been directly compared. To assess and compare oncological outcomes of cryotherapy and HIFU as first line treatment in significant localized prostate cancer.
Materials and methods: Retrospective bicentric comparative study including 139 patients who underwent cryotherapy (n = 40) or HIFU (n = 99) from 2005 to 2016 for localized prostate cancer of low to intermediate NCCN prognosis (PSA <20 ng/mL, Gleason < 8, DRE.
Results: In cryotherapy vs HIFU: median age at the diagnosis was 74 [42–81] vs 75 YO [54–83] (p = 0,28), low NCCN group was 28% vs 41% and intermediate NCCN were 72% vs 53% (p = 0,17). In HIFU group, 93% of patients had a pre-HIFU TURP, while in the cryotherapy group 25% of patients received a pre-treatment androgen deprivation because of prostate volume > 50 mL. Mean follow-up were 44 vs 88 months in cryotherapy vs HIFU (p < 0.01). 80% of patients reached a PSA nadir < 0,5 ng/mL after cryotherapy vs 67% in the HIFU group (p = 0,21). The 7-yr Biochemical recurrence-free survival (BFRS) rates (Phoenix definition) were 60 vs 56% in cryotherapy and HIFU respectively (p = 0,80). The 7-yr 2nd line treatment-free survival were 74% vs 80% in cryotherapy vs HIFU (p = 0,05). In a Cox model adjusting survival on follow-up, there was no significant difference in BFRS between cryotherapy and HIFU. Multivariate analysis identified a PSA nadir < 0,5 ng/mL as the strongest independent prognostic factor à biochemical recurence for both technic. 100% of were continent before treatment, versus 83% and 84% at 1year after Cryotherapy and HIFU respectively. Preoperative impotency/absence of sexual activity was 80% in both groups. No recto urethral occurred in both groups.
Discussion: Cryotherapy and HIFU provided similar rate of PSA nadir < 0.5,g/mL, biochemical recurrence rate and functional results. A PSA nadir > 0,5 ng/mL was the main predictive factor of biochemical recurrence for both technic.

SC84 Cryotherapy for prostate cancer: Oncological and functional outcomes

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Aim of the study: Cryoablation, has been developed to reduce morbidity and improve functional outcome without compromising oncological results in selected patients with prostate cancer (PCa) The aim of our study is to evaluate oncological, functional and peri-post-operative results of hemi-ablation (HA) vs whole gland (WA) cryoablation as first line treatment for localized low-intermediate risk ((D'Amico classification) PC.
Materials and methods: We retrospectively evaluated patients who underwent cryotherapy as first line treatment for localized low-intermediate risk PCa between 2010 and 2018. Pre-operative work up included multiparametric magnetic resonance (MRI) and prostate biopsy. Baseline characteristics, pre and perioperative data and complications according to the Dindo-Clavien classification were recorded. Recurrence was suspected in case of rising PSA more than PSA nadir +2 ng/mL Each patient suspected of recurrence underwent local evaluation with prostate MRI and systemic + targeted biopsy. The primary endpoint was defined as any second line treatment (systemic or local treatment) and was evaluated by free survival without second line treatment according to the Kaplan-Meier curve. Functional outcomes considered included urinary continence and erectile function according to validated questionnaires.
Results: Overall, 66 patients were included in this retrospective study. In WG (n = 40) vs. HB group median patients age was 74 (interquartile range [IQR] [42–81] vs 76 [71–80] years. Median BMI was 27 [22–35] vs. 26 [22–38] and Median Prostate size (ml) was 39 [20–90] vs 56 [23–120] in WG and HG group, respectively. Pre-operative erectile dysfunction was already existent in 80% vs 57% of cases. Median follow up was 41[1,5–99,00] vs 27 [0.9–93] months. Overall, 31 (46%) patients needed a MRI or biopsy for suspicious recurrence at a medium follow up of 36 months. Overall, retreatment has been recorded in 9 (13,6%) cases. Of these 5 (12,5%) and 4 (15,3) patients were in WG and HB group respectively. All of them had a intermediate risk except one patient of HB arm. No difference has been recorded in 2 line free survival in kaplan meyer analyses about of type of procedure (p = 0,73) and D'Amico risk (p = 0,17). The 40% and 28% of patients were

incontinence at one month after procedure in WB and HB group respectively. In each groups 1 year continence was recovered in 83% of patients. (p = 0,99) Postoperatively 25% and 54% of patients were still potent in WG group and hemi ablation respectively. Adverse event occurred in 48% and 23% of patients in WG and Hemi ablation group (p = 0,04).
Discussion: In low and intermediate PCa risk, WG and HB cryoablation is an alternative treatment to the radical prostatectomy and radiation therapy, showing good medium-term oncological outcome in both group (hemi and whole gland ablation). Further studyes with greater sample and longer follow up are necessary to confirm our preliminary results.

SC85 Partial vs radical cryoablation for localized prostate cancer: Oncological, functional outcomes

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Aim of the study: There are few studies comparing oncological and functional (urinary continence and erectile function) outcomes as well as complications of partial vs. radical cryotherapy for localized prostate cancer (PCa). The present study aimed to compare efficacy and safety of partial vs. radical cryoablation of PCa.
Materials and methods: Our internal review board approved prospectively maintained database on cryotherapy was queried to identify patients with localized PCa, as assessed by negative staging choline-PET, treated by partial or radical cryotherapy. All patients having undergone partial ablation had undergone prostate mpMRI showing unilateral disease. Patients were seen at 1 month, every 3 months for the first two years, then every six months, for clinical examination, serum PSA, questionnaires for lower urinary tract symptoms (IPSS) and erectile function (IIEF-5), and assessment of pad usage for urinary continence. Biochemical failure was defined as a rising PSA above the Nadir of more than 2 ng/mL according to Phoenix Criteria. In patients treated with partial ablation, local recurrence was defined as PCa in the treated lobe whereas tumor progression was defined as PCa in the non-treated lobe as assessed by prostate mp-MRI and fusion biopsy. Complications were scored using the Clavien-Dindo scale.
Results: From March 2012 to April 2019, 172 men met the inclusion criteria (85 whole gland and 87 partial ablation). At median follow-up (36.9 vs. 26.8 months for whole and partial gland ablation, respectively), biochemical failure occurred in 10.5% (9/85) of patients for whole gland vs. 23% (20/87) for partial ablation, with Kaplan-Meier plots showing an estimated 89.5% vs. 77% biochemical-free survival at 5ys, respectively (p = 0.02). Pathological failure (positive fusion biopsy) however could be demonstrated only in 15% of patients having undergone partial ablation. Specifically, only 3% were recurrence in the treated lobe and 12% were out of field cancer, thus disease in the untreated lobe. The 12-month continence rate was similar (92.9% vs. 97.7%; p = 0.13) for whole-gland and partial ablation, respectively. The 12-month potency rate (effective intercourse) was 31.7% for whole-gland and 49.4% for partial ablation (p = 0.01). The incidence of post-treatment urinary retention was 5.8% and 0% (p = 0.02) for whole-gland and partial ablation, respectively. No case of recto-urethral fistula was recorded for both treatments.
Discussion: Partial ablation resulted in lower biochemical recurrence free survival between the two groups at 5 years but this difference in not significant at confirmatory prostate biopsy. Better post-treatment sexual function compared with whole-gland ablation in men with localized prostate cancer.

SC86 Percutaneous image-guided radiofrequency ablation for cT1a-b renal masses: A comparison between patients younger vs. older than 65 years

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Aim of the study: To compare the safety and efficacy of percutaneous image-guided radiofrequency ablation (RFA) for cT1a-b renal masses between patients younger vs. older than 65 years.
Materials and methods: From January 2008 to June 2015 a total of 152 consecutive patients underwent an image-guided percutaneous RFA. Primary outcomes investigated were technical success, complications, retreatment rate, cancer specific (CSM) and other cause mortality (OCM). Kaplan-Meier plots graphically depicted the recurrence free (RFS) rates. Univariable (ULRM) and multivariable (MLRM) logistic regression models were used to identify predictors of persistency/recurrence of the disease.
Results: Of all 152 patients, 66 (43%) and 86 (57%) were respectively younger and older than 65 years. The overall median follow-up was 40 (IQR 28–49) months. Median tumour diameter was higher in older patients (27 vs. 22 mm; p = 0.01), relative to younger. No significant differences were identified in median number of masses treated per procedure, T-stage, gender, side of lesion, endophytic vs. exophytic nature and Padua score, between the tow age groups. Of all 152 patients, 63 (41.4%) younger vs. 74 (48.7%) older than 65 years (p = 0.06) were disease free after RFA. In 1 (0.7%) younger vs. 10 (6.7%) older than 65 years a persistence of disease was identified (p = 0.06). All of them received secondary RFAs. Two (1.3%) younger vs. 2 (1.3%) older than 65 years underwent multiple RFAs due to multiple synchronous renal masses. No persistence was described at last control in all of these 15 retreated patients. Eight (5.3%) younger vs. 9 (5.9%) older than 65 years experienced a recurrence (p = 0.9). In Kaplan-Meier analyses, the 3-year RFS rate was 90.9% in younger vs. 94.2% in older than 65 years, but failed to reach statistical significance (log rank = 0.7). Of these 17 patients, 4 (23.5%) experienced a distant (adrenal glands or contralateral kidney) recurrence, 1 (25%) younger vs. 3 (75%) older than 65 years. In all these patients, the oncologic control was achieved after a second RFA. No progression or cancer related deaths were identified. One (0.7%) younger vs. 3 (2.1%) older than 65 years died due to other causes (p = 0.8). Of all 152 patients, according to Society of Interventional Radiology complication scale, 7 (4.6%) experienced a grade A, 6 (3.9%) a grade C and 2 (1.3%) a grade D complication. No statistical difference was identified between the two age groups (p = 0.9). In MLRM, tumour size > 2.5 cm resulted the only predictor of persistence/recurrence (OR 1.05; CI: 1.008–1.099; p = 0.02), while age younger vs. older than 65 years failed to predict this outcome.
Discussion: imaging-guided percutaneous RFA resulted oncologically safe, with a low complication rate, in both patients younger or older than 65 years old. Tumour size > 2.5 cm resulted the only predictor of persistency/recurrence of disease, while age younger vs. older than 65 years failed to predict this outcome.