Proffered Papers: Donal Hollywood Award

**OC-0282**

**FLAME randomised trial: 95Gy MRI-boost vs 77Gy prostate radiotherapy: toxicity and quality of life**

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**Purpose or Objective:** The aim of this study was to compare treatment related side-effects and quality of life of an MRI-based 95Gy boost to the multi-parametric MRI visible tumor with 77Gy whole prostate external beam radiotherapy in patients with intermediate or high risk localized prostate cancer.

**Material and Methods:** FLAME (NCT01168479) was a phase 3, single blind, multi-center randomized controlled trial. Patients with biopsy proven intermediate and high risk prostate cancer (D’Amico risk classification) were randomly assigned and stratified per center. Analysis was done by intention to treat. The control group received a dose to the entire prostate of 77Gy in 35 fractions. The experimental arm received an additional integrated boost up to 95 Gy to the mp-MRI-visible lesions. Treatment related toxicity was measured by the Common Toxicity Criteria for adverse events version 3.0 (CTCAE). Quality of Life (QoL) was measured by SF-36, EORTC QLQ-C30 and EORTC QLQ-PR25. All items and scale scores were linearly transformed to a 0-100 scale, with higher scores reflecting either more symptoms or higher levels of functioning. Clinical relevance was considered a difference of more than 10 points between arms. Mean differences between groups were calculated using a linear mixed model with adjustment for baseline values. Statistical significance was considered P<0.01.

**Results:** Between 2009 and 2015 287 patients were assigned to the control group and 284 to the dose-escalated (FLAME) arm. Mean follow up was 22 months. In both arms, 84% of patients had high risk disease. Regarding GU toxicity, 134 patients (47.2%) in the FLAME arm and 147 patients (51.4%) in the control arm experienced any grade 2 or higher toxicity. Grade 3 GU toxicity occurred in 15 patients (5.3%) in the FLAME arm and 12 patients (4.2%) in the control arm. Regarding GI toxicity, 60 patients (21.1%) in the FLAME arm and 47 patients (16.4%) in the control arm experienced grade 2 or higher toxicity. Grade 3 toxicity occurred in 2 patients (0.7%) in the FLAME arm and in 5 patients (1.7%) in the control arm. None of these differences were statistically significant. For all quality of life measures no statistically significant or clinical relevant differences were observed.

**Conclusion:** Up to a median follow-up of 22 months no differences in toxicity and quality of life were observed between the FLAME arm and the standard arm. Therefore, dose escalated 95Gy MRI-based boost in prostate cancer external beam radiotherapy seems safe.

**Proffered Papers: Highlights of Proffered Papers**

**OC-0283**

**Dose escalation with contact x-ray brachytherapy to improve organ preservation in rectal cancer**

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**Purpose or Objective:** ‘Watch and Wait’ policy for complete clinical responders (cCR) following CRT is gaining acceptance as this avoids extirpative surgery and a stoma. However, up to 30% required major surgery for recurrences and organ preservation achieved reduced to 40% for the whole group. We report our experience with dose escalation using Contact x-ray brachytherapy [Papillon] (CXB) boost which reduce recurrences and improve the chance of organ preservation.

**Material and Methods:** We review 573 patients with rectal cancer treated at Clatterbridge Cancer centre from 2003 - 2012 and report on 200 patients treated radically to cure by non-surgical approach. There were 134(67%) males with median age 74 years (range 32-94). Histological diagnosis confirmed in all patients. Staging include CT in all and MRI except in 30(15%) with pace maker. Radiological stages were 21(10.5%) T1, 89(44.5%) T2, 87(43.5%) T3 and 3(1.5%) T4. EBCRT with 45 Gy /25#/35 days and capecitabine 825 mg/m² 2 or 5 FU infusion 1G /m 2 X 4 days week 1+5 was given to 127 patients. EBCRT for 82(44%) patients except ERBT alone in unfit 57(28%) who had 25 Gy/5#/5 days. Papillon boost of 80-110 Gy in 3-4 fraction was given to 92% of patients who had EBCRT or ERBT. Papillon alone (80-110 Gy /3-4 #/ 6 weeks) was used in 16 (8%) of elderly patients with mainly cT1 cancers.

**Results:** Initial complete clinical response [cCR] (no residual tumor visible, palpable or on radiology) was achieved in