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**Purpose/Objective:** Standard management of low rectal cancer is radical surgery often combined with pre-operative External Beam Radiotherapy (EBRT) ± chemotherapy. Despite advances in surgical techniques permanent stoma formation can be unavoidable. Contact radiotherapy (CBT) offers an alternative to surgery. Potentially operable patients must understand close follow up is required as the risk of local recurrence is greater, though with salvage surgery overall survival appears not to be affected. St Luke's Cancer Centre offers this treatment via a 50kV orthovoltage machine (Ariane, Derby, UK). This service commenced in April 2014. We report response assessment using MRI in potentially operable patients with a minimum of 3 months follow up.

**Materials and Methods:** 15 patients have been treated to date. Median age is 62 years (51 to 87 years), 10 male and 5 female patients were treated. Clinical staging ranged from T2N0 to T3N1. All cancers were histologically confirmed adenocarcinomas. Treatment was planned via the multidisciplinary team. One patient was excluded from this analysis as who developed progressive disease and was offered immediate surgery.

All patients received EBRT 45Gy/25 fractions with a CBT boost of 90Gy in 3 fractions. Median duration of CBT boost 26 days (24-30 days).

**Results:** 3 Patients with tumours <3cm at presentation had CBT prior to EBRT. 12 patients had CBT boost post EBRT.

Median follow up is 4 months (3-7 months). 14 Patients have had 3 month MRI scans, all of which show radiological complete response with no tumour seen (TRG1).

**Complications:** Acute toxicity is recorded at subsequent clinic visits. This treatment is well tolerated, and only Grade 1 diarrhoea and rectal bleeding have been reported.

**Conclusions:** With appropriate counselling patients can make an informed decision to have stoma-sparing treatment potentially at the expense of an increased local failure rate. Early results show good response to treatment with acceptable toxicity. Complete resolution of tumour was seen in all cases where treatment was completed as planned. These patients will remain under follow up for tumour control and late toxicity.

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Poster: Brachytherapy track: Miscellaneous

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PO-1053

Primary facial skin cancer and skin metastatic breast cancer successfully treated with HDR plesiotherapy

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**Purpose/Objective:** to present the treatment regimen and contention method, used to treat surgically mistreated or

recurrent facial skin cancer and skin metastatic breast lesions, with HDR Plesiotherapy (PT)

**Materials and Methods:** a total of 170 treatments were performed in 15 patients: 9 with basal or squamouscell carcinoma (1 was treated twice); 6 with progressive extension of thoracic skin breast metastasis (1 was treated twice). These last patients were treated in and out of the previously irradiated zone (2 to 7 years). The planning method was identical for all the patients. One or several zones (1-6) were carefully delineated with a radiopaque marker, then covered with a moulded thermoplastic facial or thoracic mask for strict immobilization and reproductibility; the first bolus plaque was applied on the mask and 6 Fr plastic tubes were placed 10 mm apart above the treatment zone, and immobilized by 2 more plaques. The dosimetry done with CT images allows for the selection of the depth from 3-6 mm of the prescribed dose. For all patients, the total delivered dose was 40 Gy in 5 weeks, 10 fractions, twice a week. Every patient had a photo file with pre-treatment, simulation, reactions during HDR PT, and follow up pictures, in order to afford an eventual re-treatment.

**Results:** all 15 patients, including the 2 re-treated for vicinity cancer progression, are macroscopically disease free after HDR PT with follow up times of 4 to 26 months. Two patients with wide thoracic multi irradiated zones had a 1 week treatment interruption due to radioepithelitis. Complete healing occurred 2 weeks after the end of PT, but 1 thoracic patient needed 7 weeks. The final cosmetic results were also dependent on the previous treatment (surgery or RT): 8 excellent, 1 good for the facial group; 3 good, 2 medium, 1 bad for the thoracic group.

**Conclusions:** HDR PT is a good treatment for primary skin cancer and skin breast metastasis with progressive extension. The three dimensional dosimetry and contention mask ensure the reproductibility of the delineated zone at the chosen depth. This precision allows for re- treatments in close vicinity even with an irregular shape. With this regimen we achieved a good oncological control and cosmetic results with a low complication rate. New superficial locations are now in experience.

PO-1054

99mTc-MIBI SPECT-CT guided salvage HDR brachytherapy for recurrent malignant soft tissue sarcomas

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**Purpose/Objective:** To evaluate clinical value of HDR brachytherapy in patients with non-operable recurrent malignant soft tissue sarcomas (MSTS) and role of 99mTc-MIBI SPECT-CT imaging in therapy planning and monitoring of its efficacy

**Materials and Methods:** The study group consisted of 9 patients with RSTS that were inoperable (2 patients with pelvic tumours) or considered as candidates for amputation (7 patients with MSTS of extremities). Tumor volume varied