

perform the validation (Table 1). Our validation resulted in an AUC of 0.62. The AUC increased to 0.76 after we removed all duplicate patients due to multiple false-positive tumor length 'hits' per patient during automated free text search.

Description	Number of patients
All patients	2579
All patients with clinical TN stage	2236
All patients with clinical TN stage, and tumor length	848
All patients with clinical and pathologic TN stage	96
All patients with clinical and pathological TN stage, and tumor length	38

Conclusions: We describe a method to extract data from multiple sources, and to apply a prediction model on routine clinical patient data. Although the free text extraction was not perfect and the number of patients in our validation was low (N=38), we have successfully shown a method for automatically (nightly) applying prediction models in clinical practice, and thus enabling use of prediction results for treatment decisions. Unfortunately, there is still a need to enhance data collection at the source. For example, the availability of pCR was our most limiting factor (only 4% of patients). Furthermore, the extraction of tumor length from free text reports remains necessary until available in a structured format.

Based on this method, future work consists of adding more data sources and routine clinical validation of prediction models.

PO-0702

Improving radiotherapy adherence in rectal cancer through centralisation of treatment and clinical audit

P. Manchon-Walsh¹, J. Sola¹, J. Prades¹, J.A. Espinas¹, A. Guarga², J.M. Borrás¹

¹Health Department of Catalonia, Catalan Cancer Strategy, L'Hospitalet de Llobregat, Spain

²Catalan Health Service (CatSalut), Health Service Procurement & Assessment, Barcelona, Spain

Purpose/Objective: A re-organisation of surgery of rectal cancer among reference hospitals was implemented in 2011 based on the results of a clinical audit. The aim of this study was to assess the impact of centralization of rectal cancer surgery on radiotherapy patterns of care and its impact on clinical outcomes.

Materials and Methods: Quality of rectal cancer care was assessed by means of a clinical audit (retrospective cohort study) of all patients receiving treatment for rectal cancer with a radical intent in public hospitals in Catalonia in two-time periods (2005/7 and 2011/12). Radiotherapy patterns of care as well as clinical outcomes, comparing both periods, were analysed in order to measure the impact of centralization. Clinical practice was compared with evidence-based clinical guidelines.

Results: From 2005/7 to 2011/12 the number of hospitals performing rectal cancer surgery decreased from 51 to 29. The study covered 2553 patients with TNM stage-II or III primary rectal cancer. From 2005/7 to 2011/12 the number of patients receiving radiotherapy for their rectal cancer, either pre or postoperatively, has increased from 72.2 to 76.2% (p=0.025). Delivering pre-operative radiotherapy ± chemotherapy (RT/ChT) increased from 57.3 to 66.2%

(p<0.001). Short course radiotherapy increased from 2% to 7%.

When comparing patient characteristics broken down by neo(adjuvant) treatment, patients with pre-operative RT/ChT are marked by: a younger age; a lower surgical risk and a tumour site more frequently located in the distal rectum, and this in both periods.

The crude local recurrence rate at 1 year of follow-up was 3.1%.

The results of the univariate COX regression analysis showed a local-recurrence rate hazard ratio of 1.9 for the group of patients that did not receive any radiotherapy versus the group that received preoperative radiotherapy (p=0.019). In the multivariate COX regression analysis, TNM stage, type of neo(adjuvant) treatment and type of surgical intervention were independent predictors of risk of local recurrence at 1 year of follow-up.

Further follow-up is ongoing.

Conclusions: Centralising surgery into high volume providers could be associated with improved adherence to radiotherapy recommendations, possibly as a result of more structured multidisciplinary decisions.

Health policy approach combining assessment from the clinical audit with reorganisation of the delivery of complex treatments has been associated with better outcomes. A model of care based on the centralisation of high-complexity cancer treatments should be supported by managed regional networks and improved referral of patients.

PO-0703

Safety and efficacy of image guided intensity-modulated radiation therapy in the treatment of anal canal cancer

B. De Bari¹, L. Lestrade², R. Jumeau¹, M. Kontouri², O. Matzinger³, J. Bourhis¹, T. Zilli², M. Ozsahin¹

¹Centre Hospitalier Universitaire Vaudois, Department of Radiation Oncology, Lausanne, Switzerland

²Geneva Academic Hospital, Department of Radiation Oncology, Geneva, Switzerland

³Riviera Hospital, Department of Radiation Oncology, Vevey, Switzerland

Purpose/Objective: Intensity modulated radiotherapy (IMRT), including volumetric arc therapy (VMAT) and helical IMRT (HT) techniques, has been only recently introduced in the treatment of anal canal cancer patients. We retrospectively assessed efficacy and safety of IMRT, VMAT, HT and daily image-guided RT (IGRT) for anal canal cancer.

Materials and Methods: Data of patients with a diagnosis of anal canal squamous-cell carcinoma treated with curative intent in two academic radiation oncology departments were analyzed. Local control (LC) and grade 3 or more toxicity rate (CTC-AE v.4.0) were the primary endpoints. Overall (OS), disease-free (DFS), and colostomy-free survival (CFS) are also reported. Anal canal, mesorectal, pelvic, and inguinal nodes received a total dose of 36 Gy (1.8 Gy/fr) using IMRT or VMAT or HT (depending on the treating center). A sequential boost to the anal canal and positive nodes (total dose: 59.4-60 Gy, 1.8-2 Gy/fr) was delivered with IMRT, VMAT, HT or 3D-conformal RT (CRT). Planning target volume was obtained adding 5-mm margin to the clinical target volume.

Results: Between 03.2006 and 05.2014, a total of 137 patients was treated; 15, 62, 31 and 28 patients presented