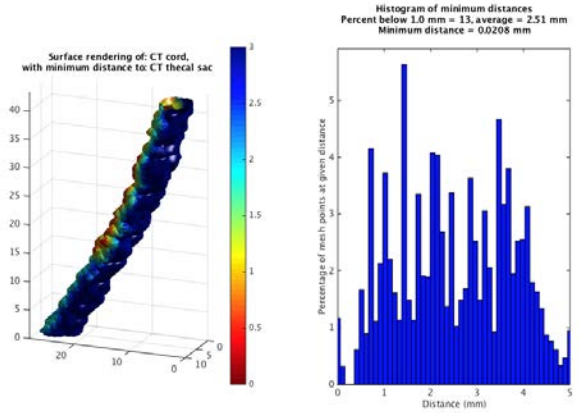
multiple testing in statistical analysis was done using the Benjamini-Hochberg method.

Results: With a median follow up of 34 months, the 3-year LC, PFS and OS (with 95% confidence intervals) were 64% (53% - 75%), 51% (39% - 62%) and 77% (67% - 87%), respectively. No image features were significantly correlated with LC or PFS and adding image features to the clinical variables did not improve the performance of the Cox model in the bCV setting, as seen in Table 1 where the C-index is highlighted in bold if adding image features improved performance.

Patient #	Minimum distance (Cord to Thecal sac) [mm]	% of Cord closer than 1mm from Thecal sac [%]	Potential max point dose to Cord (SBRT) [Gy]	Potential max point dose to Cord (EQD2) [$Gy_{3/2}$]	Estimated potential myelopathy risk [%]
1	1.71	0.0	18.2	36.6	4.6
2	0.02	13.3	21.9	50.7	10.0
3	2.07	0.0	17.4	33.8	4.1
4	1.01	0.4	19.7	42.1	6.0
5	0.64	5.5	20.5	45.3	7.2
6	1.65	0.0	18.3	37.0	4.7
7	0.92	1.9	19.9	42.9	6.2
8	0.49	4.2	20.8	46.5	7.7
9	0.96	0.6	19.8	42.6	6.2
10	0.59	3.8	20.6	45.7	7.3
11	0.60	5.3	20.6	45.6	7.3
12	1.53	0.0	18.5	37.9	4.9
13	0.02	16.0	21.9	50.8	10.0
14	0.67	5.6	20.4	45.0	7.1
15	0.02	8.7	21.9	50.7	10.0

MTV was the image feature most closely related to OS and for OS the addition of image features did improve the predictive performance of the Cox model. Figure 1 shows the effect of dividing the patient population based on the statistically most important variables, where it is clear that Karnofsky performance score and MTV affect the OS.



Conclusion
Adding image features to complement clinical parameters was seen to improve the prognostic value for OS. Although no significant image features were found related to LC and PFS, we found that a smaller MTV was predictive of improved OS.

EP-1097
Comparison of outcomes and toxicities between IMRT and SIB-IMRT in cancers of hypopharynx
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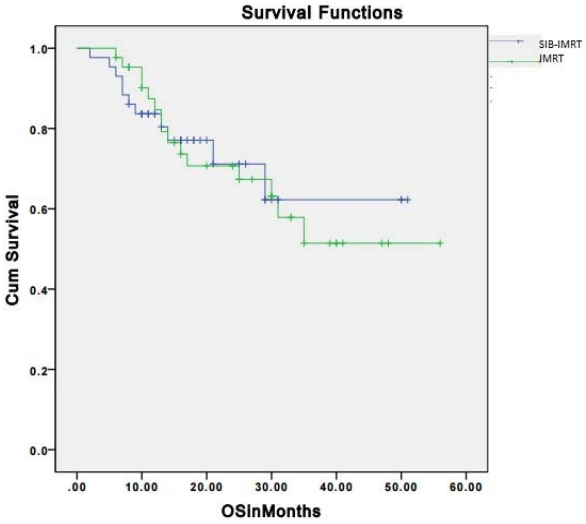
Purpose or Objective: Among cancers of head and neck, hypopharyngeal cancers tend to have an aggressive clinical course. Chemoradiation has become the standard of care for patients who are candidates for an organ preservation strategy. IMRT planning has incorporated a simultaneous integrated boost (SIB-IMRT) in order to efficiently develop comprehensive radiation therapy plans and also potentially lessen treatment time and toxicity. Outcomes and toxicites of patients with hypopharyngeal cancers treated in a single institute with standard IMRT and SIB-IMRT schedules were analyzed retrospectively.

Material and Methods: A total of 86 patients with hypopharyngeal squamous cell carcinomas were treated between September 2010 and December 2014. Among 44 patients who were treated using SIB-IMRT, 8 received neoadjuvant chemotherapy (NACT) and 42 received concurrent chemotherapy. Among 42 patients who were treated using IMRT with conventional fractionation (IMRT),16 received NACT and 40 received concurrent chemotherapy. The dose for SIB-IMRT group was 65 Gy in 30 fractions to gross and high risk disease and 54 Gy in 30 fractions to low-risk nodes. The dose in IMRT group was 66-70 Gy to gross disease, 60 Gy to high risk nodes and 50 Gy to low risk nodes in 1.8-2 Gy per fraction.

Results: At a median follow-up of 16.5 months (6-56 months) the median OS of entire cohort was 38.9 months. The mean OS was 37.5 months and 38.3 months (p=0.91) for SIB-IMRT and IMRT respectively. The mean treatment duration for SIB-IMRT and IMRT groups was 42 days (range: 38-51 days) and 48.4 days (range: 45-73 days) respectively. 98 % in SIB-IMRT and 93 % patients in IMRT group completed the intended treatment. Complete response was noted in 89 % and 93 % in SIB-IMRT and IMRT groups respectively. The estimated 1 year, 2 year LR control and 2-year DFS were 81%, 66.6%, 67.4% in SIB-IMRT and 84%, 74%, 62% (p<0.81) in IMRT groups respectively.Grade 3 mucositis occurred in 10 (23%) and 12 (28%), grade 3 dermatitis in 9 (20.5%) and 12 (28%) of SIB-IMRT and IMRT patients respectively. Grade 2 xerostomia occurred in 11 patients (27%) and 15 patients (34%) in IMRT and SIB-IMRT groups. Grade 3 soft-tissue fibrosis and esophageal stricture rates were 2 (4.7 %) and 5 (11.4%) in SIB-IMRT and IMRT groups.



Conclusion: Clinical outcomes, acute and late toxicities of chemo-radiation with SIB-IMRT were comparable with IMRT. Overall treatment duration was reduced and more patients completed intended treatment in SIB-IMRT group with relatively lesser acute toxicities.

EP-1098
Radiation induced brachial plexopathy in head and neck carcinoma (acute and chronic)
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Purpose or Objective: Radiation Therapy Oncology Group (RTOG) guidelines recommend brachial plexus dose constraints ranging from 60-66Gy in 2Gy per fraction (BED = 120-132Gy2). However there remains limited data on brachial plexus (BR.P) toxicity and furthermore the dose limits are