



# Audit of Acute Intensity Modulated Radiotherapy (IMRT) Toxicity in Head and Neck Cancer patients at Velindre Cancer Centre 2009-10



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## Background

Role of radiotherapy (RT) is well established in head and neck cancer but is associated with significant acute and late toxicity. IMRT allows the delivery of a high dose of RT whilst reducing the dose to surrounding normal tissue, thereby minimising toxicity. Randomised studies show that IMRT can reduce acute and late toxicity in patients undergoing RT for certain sub-sites of H&N cancer.

## Aim

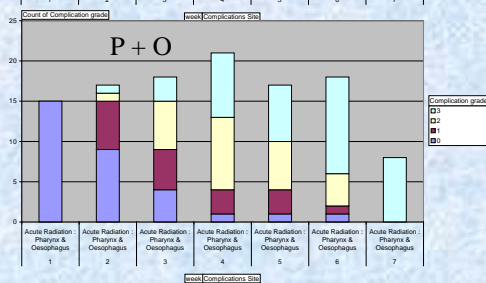
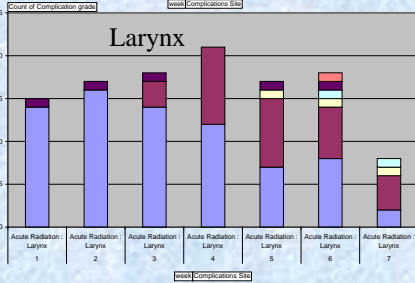
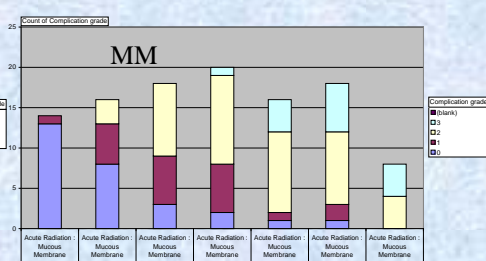
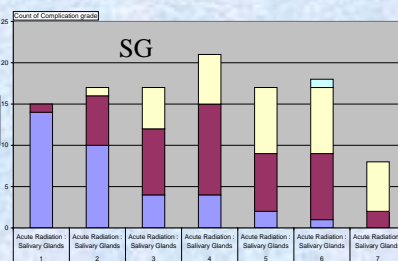
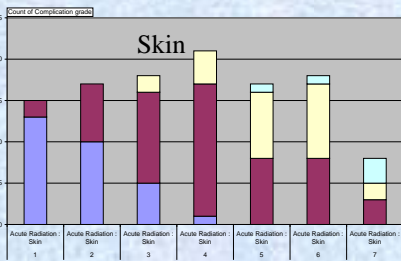
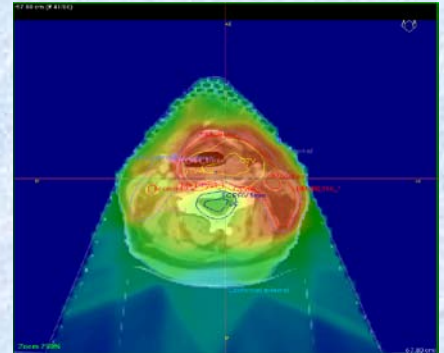
To record acute toxicity in the first cohort of H&N cancer patients treated with IMRT at Velindre Cancer Centre and compare with the published literature.

## Standard

PARSPORT, a UK phase III RCT comparing H&N IMRT with conventional RT was used as our standard. Primary endpoint of the trial was xerostomia at 12 and 24 months following RT, but acute toxicities were also reported. In an RT alone population, the rate of  $\geq$ G2 toxicities were: mucous membranes (MM) 91%, skin 76%, pharynx and oesophagus (P + O) 87%, salivary gland (SG) 80%.

## Methods

We established an IMRT review clinic in June 2009 and the RTOG acute morbidity scoring system was used to prospectively record acute toxicities for each patient visit on a single electronic health record database.



Study	No	Subsite	RT dose	Concurrent chemo	$\geq$ G2 toxicity	G3/4 toxicity
Chakabarty	28	Multiple sites	72 in 33# or 66 in 30#	No		G3 skin 14.3%, $\geq$ G3 MM 46.43%
Dirix	40	Nasal sinus	66 or 60Gy	No		None
De Arudda	50	Oropharynx	69.6/59.4/54Gy 33 #	86%	MM 92%	G3 MM 38%
Gomez	35	Oral cavity	60Gy	29%	Skin 54%, MM 66%, P+O 40%	
Huang	71	Oropharynx	70Gy in 33#	Yes		G3/4 seen in 49%
Kim	25	Nasopharynx		68%		G3 MM 16%
Lee	68	Nasopharynx	70/59.4Gy 33#	Yes		G4 MM 4.4%
Vosmik	38	Multiple sites	66Gy in 30#			No G4 toxicity
<b>PARSPORT</b>	<b>94</b>	<b>Oropharynx Hypopharynx</b>	<b>65Gy/30#</b>	<b>No</b>	<b>MM 91%, Skin 76%, P+O 87%, SG 80%</b>	<b>G3 MM 63%, G3 Skin 32%</b>
<b>Velindre</b>	<b>22</b>	<b>Multiple sites</b>		<b>77%</b>	<b>MM 91%, Skin 64%, P+O 91%</b>	<b>No G4 toxicity G3 larynx 9%, G3 MM 31%, G3 P + O 73%, G3 skin 14%</b>

## Conclusion and Action plan

There were no G4 toxicities. Dysphagia was our most significant grade 3 toxicity (73%) but was often pre-empted by RIG/PEG insertion. In our first cohort of IMRT patients we found comparable toxicities to the RT alone PARSPORT population. We plan to continue our IMRT H&N programme while continuing to collect acute toxicity data on a larger number of patients and also prospectively collect late toxicity data.