

Application of conformal radiotherapy in treatment of non-Hodgkin head and neck lymphoma

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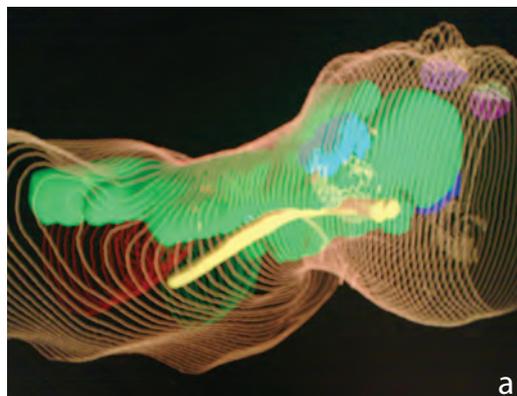
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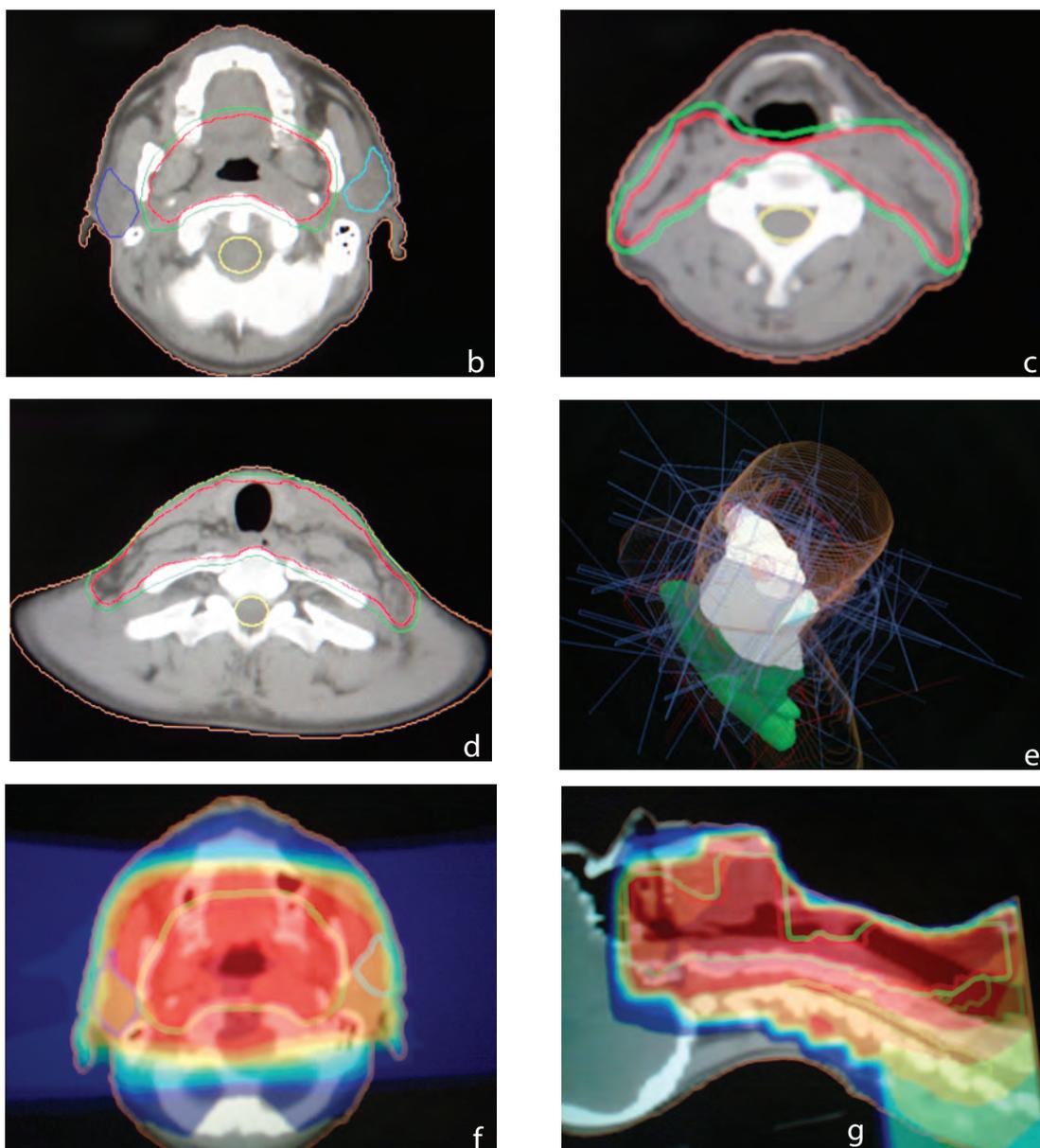
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A male patient, aged 33, was treated at the Clinic for Oncology, Hematology and Radiotherapy at the University Clinical Center, Tuzla, with the diagnosis of diffuse large B-cell lymphoma. Conformal radiotherapy was conducted on the region of the epipharynx, oropharynx and lymph nodes of the neck on both sides (1). The target volume included the following: the clinical target volume (CTV) of the tumor, the CTV of lymph nodes and planning target volume (PTV) (Panel A). The CTV of the tumor included: nasophar-

ynx, retropharyngeal lymph nodes, clivus, skull base, posterior part of the sphenoid sinus, pterygoid phosa, parapharyngeal region, the posterior two thirds of the cavum nasi and the posterior two thirds of the maxillary sinus, as well as the soft palate, tongue base and posterior wall of the oropharynx. The CTV of lymph nodes included lymph nodes of the I, II, III, IV, V, and VI levels of the neck. PTV combined both CTVs with a safety margin of 3 mm. The contours were then formed of the organs at risk: the parotid gland, spinal cord, lungs, lenses and retina (Panel B, C, D). Prescription of a therapy dose of TD 40 Gy in 20 fractions was determined at the ICRU referential point – the center of the CTV. The distribution of the 9 conformal fields provided information on the complexity and skill needed in planning conformal radiotherapy for the head and neck region (Panel E). It can be seen how a 95% dose covered the target volume and saved the parotid glands (Panel F and G). Application of 3D planning and conformal radiotherapy by the “involved field”





technique enables the precise application of the radiation dose required on the target volume, whilst saving the surrounding healthy tissue (2).

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