

Pediatric Oncology Pathology: another important area for prevention

Dear Editor,

We have read with great interest the article by Piagkou et al¹ where the authors evaluated precisely the functional anatomy of the Mandibular Nerve and the consequences of nerve injury and entrapment, distinguishing transection, crush injuries and compression as different pathologic models. In a relevant study, Eleftheriadis et al², reported two cases of male children with head and neck cancer treated with chemoradiotherapy, who presented complications like growth deficiency of middle face, mandible hypoplasia and dental abnormalities.

Several questions are arising concerning the radiation therapy in young patients with head and neck cancer and the pathologic model of nerves harm occurrence. It is surely worth of clinical research to clarify whether radiation therapy causes direct injury of the nerves or entrapment after edema and which is the pathologic mechanism of this procedure. Eleftheriadis et al², reported that there was correlation of nerves harm and the severity of developmental disorders with the age. Maybe there is a different model of pathologic degeneration according to age and the elucidation of this area would help to the better prevention in this cohort of patients. Michalski et al³, and Dahllof et al⁴, report that the lower harmful radiation dose is probably 1800-2000 rads. Although the newly developed anatomical structures are extremely radiosensitive and there are harmful consequences of the normal development after radiation therapy². The definition of the maximum radiation tolerable dose for nerves and furthermore the correlation with age through clinical trials would be advantageous for the medical society giving the necessary information for better prevention.

Considering the above, we suggest the pediatric oncology/ pathology is a new area for prevention as well as for the management of developmental disorders in young patients with head and neck cancer. We would be grateful to receive any comments or opinions in respect to these considerations.

References

1. Piagkou M, Demesticha T, Skandalakis P, Johnson EO. Functional anatomy of the mandibular nerve: Consequences of nerve injury and entrapment. *Clinical Anatomy*. 2011; 24: 143-150.
2. Eleftheriadis N, Papaloukas C, Pistevou-Gompaki K, Eleftheriadis D, Hatzitolios A, Ioannidou-Marathiotou I. Long-term radiotherapy related complications in children with head and neck cancer: Another area for pediatric oncologic pathology. *Inter J of Gen Med*. 2009; 63-63.
3. Michalski JM, Meza J, Breneman JC, Wolden SL, Laurie F, Jodoin MA, et al. Influence of radiation therapy parameters on outcome in children treated with radiation therapy for localized parameningeal rhabdomyosarcoma in Intergroup Rhabdomyosarcoma Study Group trials II through IV. *Inter J of Radiation Oncology*Biophysics*. 2004; 59: 1027-1038.
4. Dahllof G. Craniofacial growth in children treated for malignant diseases. *Acta Odontologica Scandinavica*. 1998; 56: 378-382.

Neandis K², Pistevou K¹, Georgiou M¹, Papaloukas C³

¹ Department of Radiation Oncology, AHEPA Hospital, Aristotle University, Thessaloniki, Greece

² Department of Medical Oncology, 424 General Military NATO Hospital, Thessaloniki, Greece

³ Department of Anatomy, Medical School, Democritus University, Alexandroupoli, Greece

Key words: radiotherapy, oncology, pathology, prevention

Corresponding author: Kiriaki Pistevou-Gompaki, Department of Radiation Oncology, AHEPA Hospital, Aristotle University, Thessaloniki, Greece. E- mail: kipiste@med.auth.gr