A case report study of late effect of radiotherapy in a nasopharyngeal carcinoma patient after 16 years of CRT

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ABSTRACT

Introduction: Nasopharyngeal carcinoma (NPC) is the fourth most common cancer in Malaysia. This case highlights the complex clinical course of a young postpartum patient diagnosed with advanced NPC, emphasizing treatment outcomes and complications. Aim: To explore the long-term sequelae of 3D-CRT in a NPC patient. **Materials and Methods:** This is a retrospective case study. Clinical data were collected via review of the patient's medical records. All patient information was anonymized to ensure confidentiality. **Report:** This case reports a 33-year-old Malay woman who suffered from epistaxis, persistent headache and hearing loss during postpartum period in 2009. Biopsy of the tumour in left nasopharynx confirmed non-keratinizing squamous cell carcinoma. CT scan revealed an extensive mass in the nasopharynx extending to the cavernous sinuses, with bilateral nodal involvement (>6cm) and no distant metastasis (T4N3M0, Stage III). She was treated with 3D-conformal radiotherapy (3D-CRT), 66Gy/33 fractions delivered to neck, right and left lateral facial, 26 Gy/13 fractions to the anterior nose and 56 Gy/25 fractions to the anterior neck, with concurrent Cisplatin 30mg/m2. However, CT scan post treatment revealed residual disease, necessitating another 6 cycles of Cisplatin/Fluorouracil. Post radiotherapy, she encountered multiple complications, including significant oral sequelae such as xerostomia, gingivitis and gum atrophy. She also experienced trismus and osteoradionecrosis of bilateral temporomandibular joints, requiring regular morphine for pain management. Additionally, she suffered from persistent cerebrospinal fluid (CSF) rhinorrhoea, complicated by recurrent infections. Over the years, she underwent multiple biopsies and scans for suspected recurrence, all results remained negative. She was disease-free for 16 years but continued to endure significant long-term effects of 3D-CRT. **Conclusion:** This case underscores the long-term sequelae experienced by NPC survivor treated with 3D-CRT 16 years ago. Despite effective disease control, this patient faced chronic complications, underscoring the limitations of 3D-CRT in sparing adjacent normal tissues in comparison to intensity-modulated radiotherapy (IMRT).

Keywords: Nasopharyngeal carcinoma, 3D-CRT, late effect, osteoradionecrosis, CSF rhinorrhoea