



# In response to the article; “Salivary IgA as a Surrogate Biomarker for Microbial Infections in Postoperative Patients Receiving Chemo-Radio-Therapy for Head and Neck Cancer. J Lab Physicians. 2023;15(2):264-268”

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We congratulate Chavan et al for their study that explored the significance of salivary immunoglobulin A (IgA)s levels in predicting microbial infections in patients with head and neck cancer (HNC) who underwent adjuvant chemoradiotherapy (CRT).<sup>1</sup> Their findings demonstrated a considerable rise in the prevalence of bacterial infections, mostly *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*, in post-CRT patients. Furthermore, individuals with oral mucositis who acquired bacterial and fungal infections had significantly higher levels of salivary IgA ( $p = 0.003$ ) than those who did not. The results of this study provide valuable insights into the relationship between radiation-induced toxicities and the mucosal immune response, specifically in the context of oral mucositis and concomitant infections. However, two issues need further discussion, which may contribute to the existing body of knowledge on this hot topic.

First, IgA, an essential immunoglobulin found in mucosal surfaces and bodily fluids, plays a critical role in defense against infections. Therefore, monitoring IgA levels can be beneficial in determining the infection status of HNC patients, especially those that affect mucosal surfaces. Available evidence suggests that decreased levels of IgA may be as valuable as raised levels.<sup>2</sup> The reason for this is that lowered levels of IgA may indicate a reduced mucosal immune response, rendering the patient more susceptible to infections, a frequently observed issue in individuals with cancer.<sup>3</sup>

Furthermore, cancer patients often have weakened systemic and local immune responses as a result of the disease and its treatments, such as chemotherapy, radiation therapy, and immunosuppressive medications, making them more vulnerable to infections. As a result, IgA levels should be carefully monitored before, during, and after CRT, and abnormally high or low levels should be regarded as a warning sign of microbial infections of the mucosal surfaces.

And second, more severe radiation-induced toxicities, such as osteoradionecrosis of the jaw (ORNJ), have a similar microbial environment as oral mucositis. This fact is evident from a recently published report by Zhu et al, in which the authors demonstrated that *Klebsiella pneumoniae* (15.10%) and *Pseudomonas aeruginosa* (13.54%) were the most common cultured bacterial species in exudate or bone-unexposed wound surface samplings of 219 ORNJ patients.<sup>4</sup> Finally, we believe that all HNC-related disciplines, including dental oncologists, should thoroughly evaluate the IgA levels and other infection predictors to evaluate the patient's local and systemic immune status throughout the disease and follow-up courses, allowing prompt initiation of preventive interventions against local infections and late ORNJ.

## Authors' Contributions

E.T., E.S., and U.S. wrote the main manuscript text. All authors reviewed the manuscript.

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None.

**Conflict of Interest**

None declared.

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