Post radiotherapy isolated absence of uvula – Yet another case of indeterminate Mallampati classification?

The uvula is a conic projection arising from dorsum of middle of soft palate, and it prevent soft palate being forced into nasopharynx during coughing or sneezing. There are rare cases in which uvula may be isolated absent in the body or its function gets interrupted. Mostly, absence of uvula is seen with congenital disorders such as Apert syndrome, cerebro-costo-mandibular syndrome etc., but it can also be seen secondary to surgery done for sleep apnea syndrome as a part of uvulo-palato-pharyngo-plasty. To the best of our knowledge, isolated resorption of uvula, secondary to fibrosis in a post radio therapy cancer case is rare and we found it worthwhile to share such an interesting case. Isolated absence of uvula, post radiation, may present a challenge to the attending anaesthesiologist mainly in terms of airway examination and management.

A 54-year-old male patient presented to the department of head and neck surgery with complaints of ulcer in the right side of cheek for last one year. Patient was diagnosed as a case of squamous cell carcinoma and after receiving 15 cycles of radiation therapy, he was scheduled to undergo complete excision of primary malignancy and radical neck dissection. In pre anaesthetic checkup, the patient was moderately built with no relevant medical or family history. Airway examination was done in sitting position, with mouth wide open, tongue protruded to maximum and revealed an adequate mouth opening, absent uvula with only a small pit present in the anatomical location of uvula; however, soft palate, fauces, hard palate and tonsillar pillars were normal [Figure 1]. Patient had no history suggestive of obstructive sleep apnea, frequent respiratory infections or any airway manipulation but he did inform that oral structures got resorbed during cycles of radio therapy.

As an absent uvula is a very rare entity and it is a very important part of the widely used Mallampati classification used for preoperative assessment of airway, we experienced ambiguity while classifying the patient. Since posterior pharyngeal wall was visible, we classified the patient under modified Mallampati class

Figure 1: After taking appropriate risk consent, patient had complete resorption of uvula on left side, suggesting an ambiguous Mallampati class II; on right side, we have imposed an artificial uvula, if it were present in its natural position reflected in red

2, suggesting an easy intubation. Nasal intubation was done by a senior anaesthesiologist with success in first attempt, and Cormack Lehane grade 2 (glottis partly obscured, anterior commissure not seen), suggesting a moderately easy intubation. Surgery lasted for four hours, with mild blood loss and patient was extubated uneventfully.

Mallampati/modified Mallampati score estimates the size of tongue relative to oral cavity and may possibly indirectly indicate whether laryngoscopic displacement of tongue is likely to be easy or difficult; in addition it also ascertains whether mouth can be opened adequately to permit intubation. The reason why uvula is considered as an important aspect of Mallampati classification is because uvula marks the highest position in the soft palate. There are multiple conditions where absence of uvula may interrupt its normal functions. Absent uvula is a very rare entity and very less information is available about it in literature. Chilkoti GT *et al*. have also described a patient with absence of uvula, however the cause in their case was congenital and patient had a normal airway.[1] In the present case also, we could not find any difficulty in airway management. But the widely used entity-the Mallampati classification may lead to ambiguity in the airway assessment. It is rare that some structures of the oral cavity are completely lost, rather than deformed, by radiation therapy. Radiotherapy causes chemical, physical and biological changes at cellular level and may cause subcutaneous tissue fibrosis, trismus, ulceration etc., but in review of literature we could not find any literature suggesting total resorption of uvula.[2]

Post radiation to head and neck area poses challenges to the anaesthesiologist during airway management. We suggest that in simplifying cases with ambiguity, one should consider other oral structures such as tongue, posterior pharyngeal wall, tonsillar pillars and fauces and classify patients accordingly. In addition, it is emphasised that modified Mallampati classification is not suitable as a stand-alone predictor, as it has poor sensitivity, specificity and positive predictive value. It must be used with other predictors for difficult laryngoscopy and intubation.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Bhavna Gupta, Jyoti Rawat, Kamna Kakkar[1]

Department of Anaesthesiology, AIIMS Rishikesh, Uttarakhand, [1]Department of Anaesthesiology, PGIMS, Rohtak, Haryana, India

Address for correspondence:
Dr. Bhavna Gupta,
Department of Anaesthesiology, AIIMS Rishikesh, Uttarakhand, India.
E-mail: bhavna.kakkar@gmail.com

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REFERENCES

1. Chilkoti GT, Mohta M, Karthik G, Saxena AK. Absent uvula:

What Mallampati class?.Indian J Anaesth 2017;61:85-6.
2. Sroussi HY, Epstein JB, Bensadoun RJ, Saunders DP, Lalla RV, Migliorati CA, *et al*. Common oral complications of head and neck cancer radiation therapy: Mucositis, infections, saliva change, fibrosis, sensory dysfunctions, dental caries, periodontal disease, and osteoradionecrosis. Cancer Med 2017;6:2918-31.

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