Variable Oral Device for Measuring Oral Lesions

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Abstract We describe use of a variable oral device for efficient measurement of oral lesions.

Keywords Oral lesion · Measurement · Variable oral device

Precise size measurement of oral lesions is important not only for categorizing the T stage of oral malignancy but also for the follow-up of premalignant lesions such as leukoplakia or erythroplakia. In particular, T stage can influence the selection of treatment such as surgery or chemoradiotherapy. Although a straight measurement device or caliper is commonly used by head and neck surgeons, measurement of oral lesions is sometimes constrained by the space of the oral cavity, movement of the tongue and the physical complexity of anatomical

structures. We describe here the use of a variable oral device for efficient measurement of oral lesions.

A variable oral device (Variable Oral Measure[®], Four Medics, Tokyo, Japan) for measuring oral lesions was constructed according to our design. The device consists of a handle that attaches to one of four measurement scales (10, 20, 40 or 60 mm) via a ball and socket joint and can be used for deciding surgical margin (10 mm) and T stage (Fig. 1). In addition, each measurement scale can be easily exchanged with a different size, angled by 90° and rotated a full 360° around its axis (Fig. 2). Furthermore, the surface of the measurement scales is non-reflective, which is beneficial for taking oral photographs.

It is sometimes difficult to measure oral lesions, especially upper gingival lesions. However, our variable oral device enables efficient and precise measurement of lesion size because measurement scales are interchangeable and

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Fig. 1 The variable oral device

Fig. 2 Measurement scales are interchangeable, can be angles by up to 90° and rotated 360° on the axis of the handle

Fig. 3 Using the variable oral device for deciding surgical margin

adjustable. Therefore, multiple devices are no longer necessary. Moreover, using the variable oral device with the 10 mm measurement scale to determine surgical margin, regardless of lesion site, is quicker than using other measurement devices (Fig. 3). Therefore, we recommend the variable oral device for measuring the size of oral lesions and for deciding surgical margin.

Conflict of interest None.