

Oral cancer detected using tissue fluorescence



therefore, the death rate is one of the highest among all cancers. Between 350,000 and 400,000 new cases of oral cancer are diagnosed worldwide every year and it has a higher mortality rate than Hodgkin's lymphoma, thyroid cancer, acute and chronic lymphatic leukemia, non-epithelial skin cancer, and testicular cancer, according to the 2006 report, "Oral Cancer Facts and Figures: An Annual Report of the American Cancer Society."

Due to the location of oral cancer, dental professionals are typically the first to detect it. Unfortunately, many people do not see a dentist regularly and even fewer people undergo oral screenings. Early detection of oral cancer is very important, because, according to the Oral Cancer Foundation, the cure rate is as high as 90 percent. The only way to definitively diagnose oral cancer is through biopsy and histological examination under a microscope. Since health care profes-

sionals do not want to ask all patients with suspicious lesions to undergo a biopsy, detecting the cancerous nature of certain tissues is challenging.

One new method of detection that can be used by dental professionals is tissue fluorescence. It is not easy to detect oral cancer under white light, so autofluorescence is employed to more easily differentiate diseased tissues. When a light source of a specific wavelength induces autofluorescence in the mouth, healthy tissue and suspicious lesions exhibit different patterns of fluorescence.

In September 2006, LED Dental, Inc., a medical device company in Vancouver, British Columbia, announced the publication of a White Paper emphasizing the importance of using tissue fluorescence to help detect oral cancer in its early stages. The White Paper, "Early Identification of Cancerous and Precancerous Lesions in the Oral Cavity," describes the need

According to the American Cancer Society, approximately 31,000 people will be diagnosed with oral cancer in 2006. Oral cancer is often undetected or undiagnosed until the later stages;

for early oral screening, diagnosis, and treatment of oral cancer. The paper also discusses a new technology that uses a narrow band of blue light and specialized optical filtering to help identify oral mucosal abnormalities that are or may lead to cancer. LED Dental, Inc., offers this technology in its product, VELscope™, which is intended to be used by dentists as an addition to traditional oral examinations.

Though this product is relatively new, dentists feel new technology is an important tool for use in diagnosing oral cancer. Paul Bussman, DMD, FAGD, who practices dentistry in Cullman, Ala., says, "As technology continues to progress and as we understand how to use that technology, we are better able to evaluate and detect problems in the mouth in a much faster and less invasive way. Easier, more efficient ways to diagnosis oral cancer will provide for early detection and will save lives."