

Figure 6-3. Irritation of uvula and anterior tonsillar pillars.



Figure 6-4. Loss of vertical height and coexisting carious lesions with erosion.



Dental Carious Lesions

Even though caries is primarily related to bacterial acid, dental carious lesions and tooth surface loss can coexist. The tooth surface loss, due to acidic challenges, exposes dentin of teeth, which is more susceptible to both bacterial and intrinsic factors (Figure 6-4).

Tooth Surface Loss

Tooth surface loss by erosion occurs due to acidity and the erosive potential in the oral cavity from intrinsic or extrinsic acid that has exceeded the buffering capability and neutralizing functions of normal saliva and salivary proteins. The term *corrosion* has also been used to describe tooth surface loss caused by chemical and electrochemical actions.²⁷ Dental erosion occurs when the rate of demineralization exceeds the rate of remineralization of the calcified dental tissue. The hydroxyapatite crystals in enamel dissolve at the critical pH level of 5.5 and in dentin at a level of 6.9. In a normal situation, tooth structure is remineralized with the formation of hydroxyfluoroapatite crystals, which are more resistant to acidic attacks. Frequent acid exposure increases the demineralization of tooth structures. Chronic regurgitation or reflux of gastric contents, including gastric acid with a pH well below 2, is a significant cause of the dental erosion.²⁸⁻³⁰ Dental erosion can be considered an atypical manifestation of GERD. The association of GERD and dental erosion was first reported by Howden as a representing symptom in hiatus hernia.³¹ Eighty-three percent of the patients with dental erosion had evidence of GERD.^{6,32}