Erythroplakia: A Review

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***ABSTRACT*: Premalignant squamous lesions of the oral cavity are areas of altered epithelium that are at an increased risk for progression to squamous cell carcinoma (SCC).Most of these premalignant condition manifest clinically as Erythroplakia and leukoplakia. Oral erythroplakia (OE) is considered a rare potentially malignant lesion of the oral mucosa. The soft palate, the floor of the mouth and the buccal mucosa is commonly affected. The etiology of OE reveals a strong association with tobacco consumption and the use of alcohol.**

***KEYWORDS*: Erythroplakia, leukoplakia, malignant, red velvety plaques.**

DEFINITION OF ERYTHROPLAKIA:

Erythroplakia is a rare condition defined as "any lesion of the oral mucosa that presents as bright red velvety plaques which cannot be characterized clinically or pathologically as any other recognizable condition" (WHO,1978)[1]
Erythroplastic lesions are well – defined velvety red plaques which are usually (at least 85%) severely dysplastic or frankly malignant [2]. Erythroplakia is the potentially malignant disorder with the highest risk of malignant transformation defined as "a fiery red patch that cannot be characterized clinically or pathologically as any other definable disease"[3]

EPIDEMIOLOGY:

The prevalence of premalignant oral lesions is approximately 1%-5% [4]. Studies showed 85-90% of early oral squamous cell carcinomas presented initially as Erythroplakia and up to 50% of erythroplakias do transform into carcinoma.[5]. Studies also show that most of the erythroplakia and leukoplakia are seen in adults over 45 years of age, males predominating with an approximate ratio of 3:1[6].

ETIOLOGY:

Although the etiology of erythroplakia is uncertain, most cases of erythroplakia are associated with heavy smoking, with or without concomitant alcohol abuse [7]. Other risk factors are immune suppression, nutritional deficiency and chronic sun exposure [8][9] erythroplakias (particularly those located under the tongue, on the floor of the mouth, and on the soft palate and anterior tonsillar pillars) exhibit a high frequency of premalignant and malignant changes [10].

CLINICAL FEATURES:

Erythroplakia is usually seen in adults over 45 years where it most commonly involves the soft palate, floor of the mouth or buccal mucosa[11] It is usually level with or depressed below surrounding mucosa, and sometimes is associated with white patches -speckled leukoplakia or erythroleukoplakia. Virtually every case of erythroplakia has areas of dysplasia, carcinoma *in situ*, or invasive carcinoma. Carcinomas are seen 17 times more frequently in erythroplakia than in leukoplakia and erythroplakia is therefore the most potentially malignant of
all oral mucosal lesions-but erythroplakia is far less common than leukoplakia[12][13].

DIAGNOSIS:

DIFFERENTIAL DIAGNOSIS:

In view of the clinical significance of erythroplakia, its differentiation from other red inflammatory lesions of the oral mucosa is critical. Clinically similar lesions may include erythematous candidiasis, areas of mechanical irritation, denture stomatitis, vascular lesions, and a variety of nonspecific inflammatory lesions.Because localized areas of redness are not uncommon in the oral cavity, areas of erythroplakia are likely to be disregarded by the examiner, and they are often falsely determined to be a transient inflammatory response to local irritation[14]. Differentiation of erythroplakia from benign inflammatory lesions of the oral mucosa can be enhanced by the use of a 1% solution of toluidine blue, applied topically with a swab or as an oral rinse. Although this technique was previously found to have limited usefulness in the evaluation of keratotic lesions, prospective studies of the specificity of toluidine blue staining of areas of early carcinoma contained in erythroplakic and mixed leukoplakic-erythroplakic lesions reported excellent results, with false-negative (underdiagnosis) and false-positive (overdiagnosis) rates of well below 10%.[15]

HISTOLOGICAL FEATURES:

The histologic features of squamous epithelial dysplasia consist of both abnormal architecture and cytologic atypia. Abnormal architectural features seen in dysplasia include loss of cellular organization or stratification, basal cell layer hyperplasia and loss of polarity, dyskeratosis (single-cell keratinization), keratin pearls deep within the epithelium, and drop-shaped rete ridges [1].

Atypical cytologic features include nuclear enlargement, increased nuclear-to-cytoplasmic ratio, variations in cellular and nuclear size and shape, prominent nucleoli, nuclear hyperchromasia, increased mitotic activity (particularly above the basal layer), and atypical mitotic figures[1].

Reactive atypia in the oral cavity can have many of the histologic features also seen in squamous dysplasia (eg, nuclear enlargement, increased mitoses, prominent nucleoli). Although these features are usually mild, reactive atypia can occasionally be very difficult to distinguish from true dysplasia.

Although numerous grading schemes for dysplasia have been advocated, the 2005 World Health Organization (WHO) classification, which divides dysplasia into mild, moderate, severe, and carcinoma in situ, is the one most frequently followed[16] although many pathologists use the terms severe dysplasia and carcinoma in situ synonymously[1].

CONCLUSION:

Correct diagnosis and timely treatment of potentially malignant lesions with high risk of malignant transformation may help to prevent malignant transformation. Potentially malignant lesions can be treated based on the clinical and histological cessation of the habit to surgical reconstruction. But among this early diagnosis of the lesion and cessation of habit is the best line of treatment.

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