

## A STUDY OF PALATAL RUGAE PATTERN (RUGOSCOPY) IN AN EGYPTIAN POPULATION

Mona M. Abou El-Fotoh\* and Gamal Zul Hemma El-Sharkawy\*

### **ABSTRACT :**

To determine, record, describe and classify the palatine rugae in an Egyptian population, six hundred dental impressions and casts were taken for six hundred Egyptian individual divided into three groups. Each group involved 100 males and 100 females. Group I of age range 15 to 30 years Group II and III of age range 50 to 65 years. Group II partially dentulous individuals while group III completely edentulous to see the effect of presence or absence of teeth on rugae pattern. By combination of direct vision, photographs, stone casts and computer scanning, palatine rugae classified into simple and complex forms. The most common pattern was the simple form while the complex form showed further subdivision into ten types according to its shape. These are crosslink, annular, papillary, branching, unification, breaks, unification with non primary, crossover, reticular and irregular rugae. The sexes were pooled and results showed that sexual dimorphism was statistically not significant. Rugoscopy was absolutely individually and could be used as a personal print for identification especially that it is completely sex and age independent. The presence or absence of teeth never affect rugae pattern and longitudinal study for the same person showed its stability. Rugoscopy could be a definite mean of personal identification in the forensic odontology and of great importance and value in medico-legal aspects. To give rugoscopy such importance, previous recording, scanning and preservation through dental casts and computer records is essential.

### **INTRODUCTION:**

Winslow, (1732) was the first who described rugae. Palatine rugae are the ridges situated in the anterior part of the palatal mucosa on each side of the median palatine raphae, and behind the incisive papilla. The earliest illustration is probably that by Santorini, (1775) where he put a drawing depicting three continuous wavy lines which cross the midline of the palate. Gorla, (1911), put the first

system of classification. In it the ruga pattern is characterized in two ways by specifying either the number of rugae or the extent of the ruga zone relative to the teeth. He defines a ruga as a ridge extends at least one half the distance from the median palatine raphe to the dental arch. He counts compound rugae of two or more branches as one, they may be V-or Y-shaped. He further distinguishes two types: simple or primitive and

---

\* Department of Oral Biology, Faculty of Oral & Dental Medicine, Cairo University.