function. Although numerous ultrastructural studies have examined taste buds of mammals, controversy still exists regarding the classification of cell types, and of the lineage of taste bud cells. We examined the embryonic development of rabbit taste buds by electron microscopy and immunohistochemistry. At prenatal day 27, relatively larger and lighter cells appeared in the basal position of the epithelium. These cells were immunoreactive for CK 20, and were characterized by the presence of numerous dense-cored granules, resembling those of type III cells of the adult taste bud and of Merkel cells in the epithelium. The emergence of these cells in the epithelium preceded the arrival of nerves. By prenatal day 28, glossopharyngeal nerves entered the epithelium and became associated with type III-like cells. Occasionally, Schwann-like cells, resembling type II cells, accompanied by numerous nerves were found to penetrate *via* the basal lamina into the epithelium at prenatal day 28. Type I cells differentiated from the surrounding keratinocytes after prenatal day 30. Our results thus indicated that three distinct cell types (type I, II, III) in rabbit taste buds are separate cell lines and never transform into one another.

P-15. 食物性状と咀嚼様式

○平川 輝行・柿山 哲治

九州保健福祉大学・視機能療法学

摂食時の咀嚼運動と食物物性およびテクスチャーとの対応性については種々の報告があるが、それらは単一食物を個別に摂食させた場合の結果を論じたものがほとんどである。今回、日常食を自由に摂食させた場合、日常食の食物性状の相違によって咀嚼様式にどのような差異が見られるのか、それらが被験者間で同一傾向を有するのかどうかを検討した。口数・箸運動時間・食事時間・咀嚼回数は食事内容によって変化し、頭頸部の咀嚼に関する種々の筋の活動量においても同様に变化した。一般的には、パン食は米食に比べ、またコーンスープは他の汁物に比べ、また、うどん食は口数や咀嚼回数が少なくなる傾向があった。頭頸部諸筋の筋電図パターンは食物の口への取り込みや噛み締め、嚥下時に、また食物性状によって特徴を有していた。食事内容によって被験者間で口数や咀嚼回数に異なる変化が見られることから、摂食行動には生活習慣に裏打ちされた学習が大きく関与していることが考えられる。

Relationship between physical properties of daily meals and masticatory patterns

Teruyuki Hirakawa and Tetsuji Kakiyama (Department of Orthoptics and Visual Science, Kyushu University of Health and Welfare)

Many researches on relationship between physical properties of foods and masticatory movements deal with it to individual food in experimental condition. This study was done for effects of 10 different types of daily meal on masticatory patterns, such as the numbers of bringing food to mouth and chewing, the duration of taking a daily meal, the total duration of moving chopsticks, and on EMG activities of masticatory and swallowing muscles. Five subjects took part in this study. The numbers of bringing food to mouth and chewing it are not many in the diet with bread or noodle compared with in the diet with rice, and in the soup without ingredients compared with that with it. Integrated value of EMG is directly proportional to the chewing number and the duration of taking a daily meal. It is supposed that the diet with rice elevates the number of chewing a daily meal.