Hyperdolichocrany in the Medieval Midwestern Kyushuities

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Abstract: Hyperdolichocrany in the medieval adult males of Midwestern Kyushu (near Kumamoto city), particularly concerning the secular changes of the skull forms, are presented and discussed. While the mean cranial index of the modern Midwestern Kyushuities was mesocranic, the mean cranial index of the medieval Midwestern Kyushuities was hyperdolichocranic of 68.1. Concerning the medieval Kamakura Japanese, Suzuki showed their skull forms to be dolichocrany in the mean cranial index of 74.2. The cranial indexes in the Midwestern Kyushuities have increased from the medieval period to the present-day.

Key words: hyperdolichocrany, cranial index, secular change, head form, medieval Midwestern Kyushuities.

(Received 3 December 1980)

Introduction

While the present-day Midwestern Kyushuities were shown to be characteristically mesocrany (Matsumoto, 1956), Suzuki *et al.* (1956) pointed out the remarkable dolichocrany (=a long skull) of the medieval Kamakura Japanese. The author made an anthropometric study of nine samples of the adult male skulls excavated from two medieval sites near Kumamoto city and in this paper points out that the mean cranial index of the skulls was 68.1, hyperdolichocrany. The author describes these medieval hyperdolichocranic types compared with other ethnological groups and discusses secular changes of the Midwestern Kyushuities.

Materials and Methods

The materials of the adult male skulls investigated in this study were excavated from the two medieval burial sites near Kumamoto city in Midwestern Kyushu (Table 1). Three samples of these materials were partly described by the present author among others (Matsuno *et al.*, 1970). In this paper the author adds the results of six samples of the other medieval burial site (near Kumamoto city) to these results and explains those of his anthropometric studies on these skulls by using main measurements such as: the maximum cranial length, the maximum cranial breadth and the cranial index (the ratio of the latter to the former as a percentage).

Table 1. A comparison of the main measurements and the index of the calvaria of medieval male adults of Midwestern Kyushuities with others

Population	Maximum skull length			Maximum skull breadth			Cranial index		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Midwestern Kyushuities									
Medieval (Hojo)	9	184.0	5.76	5	127.4	5.05	5	68.1	1.75
Early modern (Waki)	13	180.1	5.84	13	131.0	7.31	13	72.7	3.46
Modern (Matsumoto)	67	179.7	6.72	67	139.4	5.92	67	78.1	4.77
Kamakuraites									
Medieval (Suzuki <i>et al.</i>)	170	184.2	7.69	168	136.5	5.60	168	74.2	4.10

Results and Discussion

As shown in Table 1, the mean cranial index of the medieval adult male Midwestern Kyushuities is 68.1 (maximum 70.7—minimum 65.7), hyperdolichocrany. The medieval Kamakuraites are dominant in dolichocrany and their mean cranial index is 74.2. While the mean maximum cranial length of the medieval Midwestern Kyushuities is nearly equal to that of the medieval Kamakuraites, the mean maximum cranial breadth of the former shows a remarkable narrowness. The mean cranial index of the medieval Midwestern Kyushuities is smaller than that of the medieval Kamakuraites and is the smallest mean cranial index ever ascribed to the Japanese. In spite of the remarkably remote distance between these two districts, these two populations, belonging to the same period, both show a tendency to dolichocrany. Further, the mean cranial index of the early modern Kumamotoites was described by Waki (1970) to have a dolichocrany of 72.7 (Table 1). Taking a long view of secular changes of the skull forms from the medieval period to the present-day, the cranial index of the Midwestern Kyushuities increased and the skull forms become rounder. This tendency of the skull becoming rounder among the Midwestern Kyushuities is common with Japanese of other districts including the Kamakuraites pointed out by Suzuki (1969) and Yanagisawa & Kondo (1973).

This tendency, that is to say, increase roundness of the skull or head (brachycephalization), which can be traced back to the medieval period, can be observed not only in Midwestern Kyushu, but also in many European countries. It is very difficult to arrive at a clear cause of brachycephalization. We know that no racial changes took place from the medieval period to the present-day in Midwestern Kyushu. On the other hand, domestic animals often exhibit proportions different from those of their ancestors. As one example, the pig's head is shorter and rounder than that of the wild boar. According to this interpretation, brachycephalization can be described as one of the changes referred to in the process of man's self-domestication, that is to say, the development of culture.

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中世中西部九州人の過長頭型

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要 旨： 熊本市近郊2遺跡から得られた中世の中西部九州人（男性成人）が過長頭型であることが記載され、同地方人の頭蓋骨形態の時代的变化が考察された。現代中西部九州人の頭骨指数の平均値は中頭型であるが、中世の中西部九州人の頭骨指数の平均値は68.1で過長頭型である。中世鎌倉人に関して、鈴木は頭骨指数の平均値は74.2で長頭型であることを示した。中西部九州人の頭骨指数は中世から近世を経て現代にかけて増加している。この現象はヨーロッパ諸国においても認められているところの短頭化現象であって、その明確な原因をつきとめることは難しいが、人類の自己家畜化現象にもとづく変化の1つであると考えることができよう。

J. UOEH (産業医大誌), 3(1): 11-13 (1981)