# Coexistence of Complete Metopic Suture and Inca Bone in Thai Skulls: Incidence, Morphology and Clinical Applications

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**ABSTRACT**

***The incidence of the cranial variations has been investigated in human populations worldwide. Some specific variations, such as metopic suture and Inca bone, are of clinical importance since they might be misdiagnosed as skull fractures in patients with traumatic head injury. The purpose of this study is to investigate the incidence and morphology of the metopic suture and Inca bone in Thai skulls. The crania from the skeleton collection of the Department of Anatomy, Faculty of Medicine, Chiang Mai University, were examined. From our observation, 7.3% presented with metopic suture; the incomplete type was found in 6.0% and the complete type was found in 1.3%. Different types of the Inca bone were also detected in 2.0%. Among these, 2 skulls happened to coexist with the complete metopic suture and multiple ossicles. The combination of multiple variations in a single braincase is rare. Therefore, the morphometric data and radiography of both skulls were later recorded. The external morphology of such variations mimicked the skull fracture. The cranial radiographs revealed that the metopic suture and additional bones appeared to have sclerotic margins which cannot be found in fractured skull. The physician should take these variations into account to avoid unnecessary management in patients with a history of head trauma. Concerning its uniqueness, it might also be a useful tool as personal identification in forensic medicine by comparing skulls with the antemortem radiographs.***

**Keywords:** Metopic suture, Inca bone, Skull, Thai