Compositional Changes of the Uterine Arteries in Japanese and Thai with Aging

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ABSTRACT

To elucidate compositional changes of the uterine artery with aging, the authors investigated age-related changes of elements in the uterine arteries of Japanese and Thai by direct chemical analysis. After ordinary dissections at Nara Medical University and Chiang Mai University were finished, the uterine arteries were resected from the subjects. After ashing of arteries with nitric acid and perchloric acid, element contents were determined by inductively coupled plasma-atomic emission spectrometry. It was found that a higher accumulation of Ca occurred in the uterine artery with aging in comparison with other three branches of the internal iliac artery. In the uterine arteries of both Japanese and Thai, the Ca, P and Na content increased significantly with aging. In the uterine artery of Thai, the Ca content began to increase in the forties and increased up to the seventies. As far as the uterine arteries in the subjects more than 60 years of age, the extent of Ca accumulation in the uterine arteries of Thai was one half of that in the uterine arteries of Japanese. It should be noted that the Ca accumulation occurred in the uterine artery independently of other arteries, such as the thoracic and abdominal aortas and the coronary, common carotid, splenic and common iliac arteries.

Key words: Uterine artery, Internal iliac artery, Calcium, Phosphorus, Atherosclerosis, Aging

INTRODUCTION

There are several reports (Camiel et al., 1967; Fisher and Hamm, 1975; Kadziolka et al., 1985; Punnonen et al., 1995; Crawford et al., 1997) on calcification or atherosclerosis of the uterine artery. Histological and pathologic studies