

原文題目(出處)：	Calcified carotid artery imaged by computed tomography
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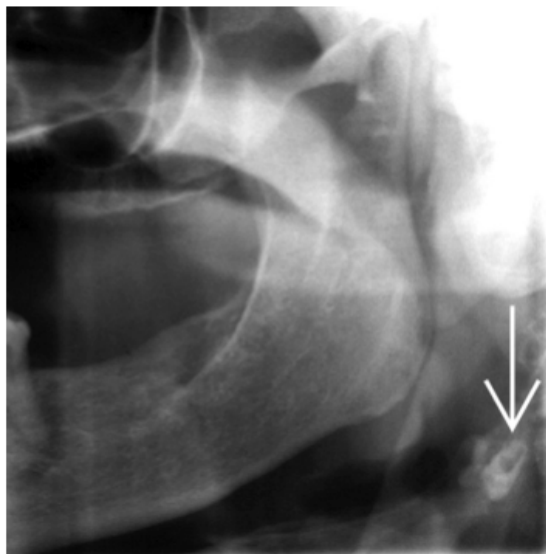
內文：

Cerebrovascular disease

- Cerebrovascular accident, or stroke, is the third leading cause of death in the United States, causing more than 150,000 deaths each year
- Ischemic or hemorrhagic--- brain is deprived of critical blood and oxygen, causing rapid cell death
- Ischemic strokes(85% of all strokes) are due to the blockage of arteries by either blood clots or the gradual build up of fatty plaque, which consists of fat and cholesterol, with calcification often occurring---atherosclerosis
- Carotid artery atherosclerosis is a contributor to ischemic stroke and myocardial infarction.

Imaging facilitates the detection of carotid artery disease

- Carotid artery calcification can often be detected by the oral surgeon on a routine panoramic film.
- On a panoramic film, calcifications of the carotid artery are located posterior and inferior to the angle of the mandible, at about 45° from the angle of the mandible



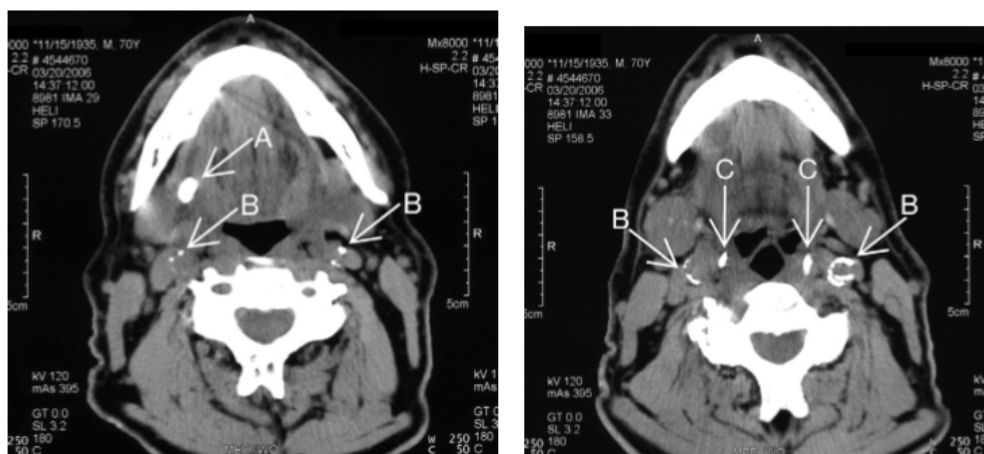
- They are present adjacent to cervical vertebrae 3 and 4, at which the carotid artery bifurcates into the internal and external carotid arteries.
- It represents a critical area for the formation of carotid atheromas, which can be circular, ovoid, linear, or irregular in shape

Computed Tomography

- CT has the ability to illustrate the quantitative extent of the calcifications and stenosis within the artery

Case Report

- **PI:** A 55-year-old man was referred to the College of Dental Medicine's Salivary Gland Center (Columbia University, New York, NY) because of a 2-year history of sporadic right submandibular salivary gland swellings associated with eating.
- **Medical History:**
 - Medication for mild hypertension
 - The patient was moderately obese and admitted to smoking 1 pack of cigarettes each day.
- **OE:**
 - At the examination, palpation revealed a slightly swollen, firm, and tender right submandibular salivary gland.
 - Intraorally, the right mouth floor was erythematous and elevated
 - Saliva manually expressed from the right Wharton's duct was cloudy
 - Intraoral palpation demonstrated a significant hardness in the third molar area of the mouth floor.
- **Imp:** sialolith in the posterior segment of the right Wharton's duct
- The CT scan confirmed the existence of a 1.2-cm stone in the proximal portion of the duct and associated sialadenitis



- incidental finding of bilateral common carotid artery calcifications

Discussion

- The CT scan is exquisitely sensitive to minute amounts of calcium
- CT scan is superior to the panoramic radiograph in both sensitivity and specificity for detecting calcifications.
- The drawbacks of CT are its high cost, its high level of radiation, and the technicality of the procedure.
- Two different studies investigated how efficient panoramic radiographs are in detecting cervical calcifications compared with CT scans.
 - These studies found that if a patient showed calcification on the CT scan, it would only be visible on the panoramic radiograph 22% to 32% of the time.
 - If no calcification is seen on the CT scan, no calcification will appear on the panoramic radiograph
 - The accuracy of panoramic radiography reported to be 50% to 62.5%
- From these findings, it is clear that the panoramic film is not as reliable as the CT scan for detecting calcifications
- Confusion can occur from the presence of other pathologic radiopacities such as calcified lymph nodes, phleboliths, submandibular salivary gland sialoliths,

fractured osteophytes, tonsilloliths, calcified acne lesions, calcified ligaments, or an extended styloid

- When an oral problem requires CT, the dental practitioner is in the unique position to diagnose the presence of these calcifications

題號	題目
1	Which statement about computed tomography is wrong? (A) The CT image is a digital image, reconstructed by computer, which mathematically manipulates the transmission data obtained from multiple projections (B) CT numbers, also known as Hounsfield units, may range from -10000 to +10000 (C) The CT image is recorded and displayed as a matrix of individual blocks called voxels (D) CT scan completely eliminates the superimposition of images of structures outside the area of interest
答案()	出處：Oral Radiology, Chap.13, p.245~264
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2	Which statement about panoramic radiograph is wrong? (A) Most panoramic machines now use a continuously moving center of rotation (B) A number of opaque soft tissue structures may be identified on panoramic radiographs (C) This center of rotation is initially near the lingual surface of the left body of the mandible when the left TMJ is imaged (D) The absence of a normal anatomic structure may be the most important finding
答案()	出處：Oral Radiology, Chap.10, p.191~209