



<b>Title</b>	<b>Ciliary ultrastructural abnormalities in Chinese patients with bronchiectasis</b>
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#### 5.4 Ciliary ultrastructural abnormalities in Chinese patients with bronchiectasis

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**Objectives:** Bronchiectasis is a common respiratory condition affecting the Chinese and affected patients suffer from sputum production, haemoptysis and exacerbations. Although it is known that ciliary abnormalities are found in bronchiectasis, ultrastructural abnormalities have not been studied in the Chinese. We have therefore performed a clinico-pathological study on the respiratory ciliary function (beating) and ultrastructure in 100 Chinese bronchiectasis patients.

**Methods:** Respiratory ciliated epithelium was obtained from the inferior turbinate of patients (mean age $\pm$ SD, 53.8 $\pm$ 18.78 years) and 45 normal subjects and assessed for speed and coordination of beating with a phase contrast microscope and a photometric system linked to a digital converter. Transmission electron microscopy (TEM) was used to examine the ultrastructure.

**Results:** The mean ciliary beat frequency in bronchiectatic patients (11.1 $\pm$ 3.15Hz) was significantly lower than normal subjects (13.8 $\pm$ 1.49Hz,  $p < 0.0001$ ). TEM showed that 73.8% of the bronchiectatic subjects displayed ultrastructural abnormalities including: presence of compound cilia ( $n=26/61$ ), single (18) or extra-microtubule (11), matrix abnormalities (1), dynein arm deficiency (3), and abnormal ciliary membrane (2). There was no significant difference between the ciliary beat frequency of patients with and without ciliary ultrastructure ( $p > 0.05$ ). This abundance of ciliary abnormalities was not seen in the healthy controls.

**Conclusion:** We report the results of the first systematic ciliary assessment study in bronchiectatic Oriental patients and our findings of ciliary ultrastructural abnormalities might have important aetiological relevance in bronchiectasis.

#### 5.5 Implications of profiles of radial artery size in Hong Kong Chinese

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**Purpose:** With miniaturization of coronary equipment, radial artery approach in coronary procedures has been made possible in recent years and is widely adopted in many European institutions as well as in some Chinese centers. However, there is little data on the size of radial artery in literature and hence the safety of using larger profile equipment in the radial artery.

**Methods:** From October 1997 to April 1998, 30 patients with documented coronary lesions during coronary angiograms were subjected to an arteriogram of the left radial artery. The diameter was then measured by QCA.

**Results:** There were 15 males and 15 females. The range and average age, body weight, height of the males were 45-76 yr (mean 59.5 $\pm$ 7.5 yr), 53-97 kg (mean 64.1 $\pm$ 11.6kg), 151-171 cm (mean 161.3 $\pm$ 5.9 cm) respectively and those of the females were 57-78 yr (mean 67.6 $\pm$ 5.86 yr), 44-81kg (mean 58.0 $\pm$ 9.4 kg), 139.0-165.5 cm (mean 153.1 $\pm$ 8.4 cm) respectively. The left radial artery diameter and left main coronary artery diameter of the males were 2.04-3.77 mm (mean 2.87 $\pm$ 0.41 mm) and 2.04-5.05 mm (mean 4.31 $\pm$ 0.68 mm) respectively while those of the females were 1.89-3.35mm (mean 2.36 $\pm$ 0.38mm) and 2.94-5.3mm (mean 4.05mm $\pm$ 0.72mm) respectively. There was a significant difference in the size of radial artery in males and females ( $p=0.002$ ). There was no correlation of the radial artery diameter with age, body weight, height, and left main coronary artery size. 12 out of 15 male subjects (80%) have radial artery diameter greater than 2.67mm (8F) and 9 out of 15 female subjects (60%) have the diameter below 2.33mm (7F).

**Conclusions:** Our findings suggested that in female subjects, equipment greater than 6F size should be used with caution. When large profile equipment is likely required, the femoral approach appears to be a better choice in females.