The relationship of asthma and the pattern of adiposity in adult Chinese

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Introduction: While epidemiological studies of asthma using body mass index (BMI) support an association between asthma and obesity, little is known about the pattern of adiposity associated with asthma. Using different markers for obesity, we compared the characteristics of adiposity in Chinese adult asthmatics with non-asthmatics in a match-controlled study.

Methods: A total of 399 Chinese patients, age ≥35-74, with persistent asthma and requiring long-term inhaled corticosteroids, from the territory of Hong Kong were matched 1:1 on age, gender, and BMI with controls from the Hong Kong Cardiovascular Risk Factors Prevalence Study II from a random population sample. The independent association of asthma with waist circumference (WC), waist-hip-ratio (WHR), and central obesity (defined as WC ≥90 cm in men and 80 cm in women) was evaluated with multivariate regression adjusting for age, gender, BMI, education, smoking, alcohol consumption, physical activity, and the total numbers of prescriptions of oral steroids.

Results: The mean age was 53.5±10.5 years with 42% males in both groups, mean BMI was 23.66±3.72 kg/m^2 in asthmatics compared with 23.68±3.56 kg/m^2 in controls (P=0.94). Asthmatics had a significantly larger WC (82.09 ±10.25 cm vs 78.85±9.46 cm; P<0.001) and higher WHR (0.86±0.07 vs 0.84±0.07; P<0.001), even after adjustment for confounders including BMI compared with controls. Moreover, central obesity was significantly more prevalent in asthmatics versus controls (adjusted OR=3.59; 95% CI, 2.20-5.86).

Conclusion: Asthma is significantly associated with central obesity. The effect of central obesity on asthma control, and adverse health influences of central obesity in patients with asthma need to be further explored.

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Quantification of *Pneumocystis jirovecii* in patients with or without *Pneumocystis jiroveci* pneumonia

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Objectives: *Pneumocystis jirovecii* pneumonia (PCP) is potentially fatal in immunocompromised patients. We developed a real-time quantitative polymerase chain reaction (Q-PCR) targeting the mitochondrial large subunit rRNA (*mtLSUrRNA*) gene to understand the infection by this organism.

Methods: A total of 261 broncho-alveolar lavage (BAL) from 47 immunocompetent and 213 immunocompromised patients with or without PCP were examined by silver-stain and Q-PCR.

Results: Silver-stain in 47 specimens revealed eight positive samples (from seven immunocompromised patients). Q-PCR in all specimens revealed 17 positive samples (from 16 patients), including all eight silver-stain–positive cases, four silver-stain–negative cases, and five cases that had not undergone microscopic examination. Silver-stain–positive samples contained more *mtLSUrRNA* copies/ng DNA than negative ones (median: 1.61x10^2, 6.40x10^0-44x10^6 vs median: 0, 0-3.38x10^5; P<0.01). The sensitivity and specificity of Q-PCR for *P jirovecii* were 100% and 89% respectively. The positive and negative predictive values for positive silver-stain were 68% and 100% respectively. Of 178 BAL samples from immunocompetent patients without pneumonia, four (2.0%) were Q-PCR positive. None developed PCP, qualifying as cases of colonisation.

Conclusions: Q-PCR was a sensitive and specific diagnostic test for *P jirovecii*. Colonisation of the lower respiratory tract in immunocompetent patients was uncommon.