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2-16세 사이 소아청소년에서의 요로감염과 비만도의 관계

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Impact of Obesity on Urinary Tract Infections in Children between 2 to 16 Years of Age

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Objective: To determine the relationship between obesity and urinary tract infections in children and adolescents.
Methods: We retrospectively reviewed medical charts of patients aged 2 to 16 years, diagnosed with UTI by ICD-10 coding and controls admitted to our institution for reasons other than infection treatment for a period of 5 years, from January 2010 to January 2015. All subjects were divided into 3 groups according to their Body Mass Index (BMI), either lean (BMI 5-84p), overweight (BMI 85-94p), or obese (BMI>95p). Logistic and correlation analyses and Chi-square tests were performed to evaluate the relationship between obesity and UTI.
Results: A total of 540 patients were analyzed, of which 209 were diagnosed with UTI and 331 were controls. Between the ages of 2 and 16 years, no significant correlation could be seen between obesity and UTI (p-value= 0.115). However, amongst patients who were between 2 to 10 years of age, more patients in the overweight/obese groups showed a significant correlation with UTIs than in the lean group (Kendall's tau_b=0.117, p-value=0.016). The odds of UTI arising in the overweight group was 2.087 times higher than in the lean group (p-value=0.021). In females under 10 years of age, the risk was 2.775 times higher in the overweight group than the correlating lean group (P=0.026, 95% CI=1.128-6.828). Being overweight and obese also proved to have a significant correlation with lower urinary tract infections (cystitis) in this group (Kendall's tau_b=0.127; p-value=0.049). In children under 4 years of age, more patients who were in the overweight/obese groups showed a significant correlation with upper urinary tract infections (APN) when compared with the lean group (Kendall's tau=0.213, p-value=0.006), but when compared separately, only males showed the same results (Kendall's tau=0.235, p-value=0.030). In overweight males (<4 yrs), the risk of APN was 8.222 times higher than in the correlating lean group (p=0.036). However, there seemed to be no significant correlation between obesity and the occurrence of hydronephrosis or reflux among those with a UTI (p>0.05).
Conclusion: A significant correlation between obesity and UTIs in specific age and sex groups could be seen, and our study was able to prove that upper and lower UTIs shows a difference in prevalence according to specific age, sex and BMI groups.

Key Words: 요로감염, 비만도, 소아
Urinary infection, Obesity, Children