

evaluated with face to face interviews by medical faculty students.

**Results:** Of the 2468 participants, 274 (11.1%) reported history of urinary stone disease diagnosed by a physician and additionally 52 (2.1%) had at least one episode of colic pain during their lifetimes. The family history of urolithiasis was found in 28.5% of first-degree relatives, compared to 4.4% in the stone-free participants ( $P=0.01$ ). The male: female ratio was 1:1 in participants with urolithiasis. The annual incidence of urolithiasis in 2008 was 2.6%. Comparing the other ethnic groups (Kurdish, Laz, Arabic, Georgian, etc), the population Turkish in origin had statistically significant decreased risk of having urolithiasis disease ( $p=0.006$ ). Though statistically not significant ( $p>0.05$ ), urolithiasis showed a trend toward a geographical distribution within the country where south-eastern Anatolia and Aegean regions have higher frequencies compared to Black Sea, central Anatolian and eastern Anatolian regions.

**Conclusions:** Urinary stone disease is a severe problem in Turkey with high prevalence and incidence rates which also significantly differ between ethnic groups. Moreover, current findings demonstrate a shift in the prevalence by gender of urolithiasis in the population.

### S97

#### The effect of metabolic syndrome components on urolithiasis: An epidemiological study

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**Introduction and Objectives:** Components of metabolic syndrome, such as obesity, hypertension, and diabetes, are thought to be associated with urolithiasis, but limited published large-scale study has examined the association between metabolic syndrome and urolithiasis. We evaluated the relation between metabolic syndrome components and urolithiasis in a nationwide survey.

**Material and Methods:** A representative sample of 2468 persons aged between 18–70 years in 33 provinces of Turkey was enrolled in the cross-sectional study conducted with a professional investigation company. Participants were evaluated with face to face interviews by medical faculty students. Participants with urolithiasis history (Group 1) were compared participants without urolithiasis history (Group 2) in terms of hypertension, diabetes, body-mass index (BMI), waist size and trouser size using chi-square and odds ratio tests.

**Results:** Of the 2468 participants, 274 (11.1%) reported history of urinary stone disease diagnosed by a physician. The percentage of hypertension in participants with urolithiasis was significantly higher than participants without urolithiasis (16.9% & 34.3%,  $p:0.000$ , OR:3.0). In group 1, 14.2% and in group 2, 9% of participants had diabetes ( $p:0.001$ , OR: 1.83). The mean BMI was 27.2 and 25.2, respectively ( $p:0.01$ ). Participants with a BMI >30 had a 2.2 times fold increased risk of having urolithiasis. Moreover, mean waist size was significantly greater in participants with urolithiasis ( $p:0.000$ ). Those with waist size >100 cm had a 1.87 times fold increased risk of having urolithiasis. The mean trouser size was also significantly bigger in stone formers ( $p:0.003$ ).

**Conclusions:** Metabolic syndrome components are effective factors that play role on the development of urolithiasis.

### S98

#### Effect of the stone and patient related parameters on time duration of percutaneous nephrolithotomy operation and the length of hospitalization: Analysis of 1466 patients

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**Introduction and Objectives:** To evaluation effect of the stone and patient related parameters on the duration of PNL and length of hospitalization (LOH).

**Material and Methods:** During 7 years period, the records of 1466 patients with renal calculi who underwent PNL were reviewed retrospectively. According to median, duration of operation time (median=60 min) and LOH (median=2 days) were categorized to two groups. Multivariate binary logistic regression analysis was used for detecting the effects of independent variables included patient age, sex, body mass index(BMI), history of SWL or open surgery, stone size and opacity, presence of hydronephrosis, localization and number of access, per-operative and post-operative findings and complications on the duration of PNL and LOH.

**Results:** The mean operation time and LOH were  $62.6\pm 25.4$  (10–210) min and  $2.9\pm 1.6$  (1–21) days respectively. Overall success was achieved in 84.7%. According to outcome of multivariate analysis, stone size ( $p<0.0001$ , OR=1.97), presence of hydronephrosis ( $p=0.014$ , OR=2.1), bleeding blurring the vision during operation ( $p<0.0001$ , OR=1.7) and number of access ( $p<0.0001$ , OR=1.4) are significant independent predictors on the duration of operation during PNL. On the other hand, BMI ( $p=0.008$ , OR=0.82), stone size ( $p=0.01$ , OR=1.2), number of access ( $p<0.0001$ , OR=1.7) and postoperative fever or sepsis ( $p=0.001$ , OR=4.5) are factors influencing LOH.

**Conclusions:** Stone size and access number significantly affect the both operation time and LOH. However, presence of hydronephrosis and bleeding blurring the vision influence the operation time. Present data demonstrated statistical relationship between BMI and LOH. Post-operative fever and sepsis after PNL significantly increase LOH.

### S99

#### Percutaneous nephrolithotomy for staghorn kidney stones in geriatric patients

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**Introduction and Objectives:** To investigate the effect of percutaneous nephrolithotomy (PCNL) in the treatment of staghorn renal stones in geriatric patients.

**Material and Methods:** Between 2002–2009, 40 geriatric patients (22 male, 18 female), whose ages were above 65 years, underwent 42 PCNL operations for the treatment of staghorn kidney stones. The stone area, operation time, delta hemoglobin ( $\Delta$ Hb: calculated by subtracting postoperative Hb level from preoperative Hb level), stone clearance rates and additional treatment rates were investigated.

**Results:** The mean age of the patients was  $69\pm 3.5$  years. Twenty eight (70%) of the patients had at least one of the comorbide diseases including diabetes mellitus, hypertension, atherosclerotic coronary artery disease and five (11.9%) had initial ipsilateral renal surgery in history. The mean stone area was  $1668.5\pm 629.4$  mm<sup>2</sup>. Two patients underwent bilateral PCNL. The mean operation time was  $137.5\pm 33.9$  minutes and mean hospitalization time was  $3.9\pm 2.3$  days. Mean  $\Delta$ Hb was  $1.49\pm 1.29$  gr/dl. At the end of the operations, stone clearance rates were stone free in 12 (28.6%), clinically insignificant residue fragments in 8 (19%), clinically significant residue fragments in 22 (52.4%) renal units. Thus, 18 (45%) patients requested an additional treatment after PCNL; 3 (7%)