

**OP-142 EVALUATION OF CHILDREN WITH ACUTE SCROTUM: A MULTIDISCIPLINARY DIAGNOSTIC APPROACH WITH THE COLLABORATION OF PEDIATRICS AND PEDIATRIC SURGERY**

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**Aim** To analyze the diagnosis and follow-up of children with scrotal swelling and/or pain

**Material and Method** Patient demographics, clinical/radiological findings, and treatment strategies of children with acute scrotum between Dec-2021 and Dec-2023 were retrospectively evaluated at the Pediatrics and Pediatric Surgery Clinics of Antalya Training and Research Hospital. Data analysis was conducted using the SPSS-21 statistical program.

**Results** The mean ages of 194 children were  $10.98 \pm 2.40$  years. Scrotal pain (testicular, inguinal, lower-quadrant pain), swelling, and redness were the common cause of complaints. Acute epididymitis (36.1%), epididymo-orchitis (8.8%), orchitis (2.1%), testicular torsion (21.6%), hydrocele (4.6%), epididymal cyst (1.6%), varicocele (1.6%), strangulated hernia (1.6%), appendiceal testicular torsion (0.5%), blunt scrotal trauma (1%), testicular tumor (0.5%), undescended testicle (0.5%) were identified as the underlying pathologies. Infection was complicated by scrotal abscess in two, and pyelonephritis in four children with epididymitis, epididymo-orchitis, and orchitis. No abnormality was found in 33 (22.1%) cases. Testicular torsion occurred in 42 children (mean age:  $13.4 \pm 2.6$  years) (three cases were excluded from the study). Left testicle was the common region in 64.3% of children. False-negative sonographic findings were observed in seven (16.6%) patients. No statistical significance was observed regarding torsion localization (right testicle:  $13.4 \pm 2.5$  years, left testicle:  $12.8 \pm 3.2$  years;  $p > 0.005$ ) (figure 1). Urgent orchiectomy was performed in four (10.3%) children, surgical detorsion/fixation in 19 (48.7%) children ( $n=13$  for left testicle:  $n=6$  for right testicle), and manual detorsion maneuvers in 16 children ( $n=11$  for left testicle,  $n=5$  for right testicle). Organ malfunction/



Figure-1a: Right testicular torsion in a 14-year old male



Figure-2a: Surgical removal of right testicle of the same patient

**Abstract OP-142 Figure 1** Clinical presentation of right testicular torsion in a 14-year-old male

testicle loss occurred in 12 (30.7%) patients (in eight children following acute detorsion, and in four children after orchiectomy).

**Conclusions** Acute scrotum is an important pediatric health-care problem that requires early recognition and timely intervention of the underlying etiology. The ultimate goal is to prevent organ loss and infertility. Detailed evaluation of patients with the collaboration of health-care providers in pediatrics and pediatric surgery is crucial.

**OP-143 A SINGLE-STAGE POPULATION-BASED STUDY OF THE RELATIONSHIP BETWEEN COGNITIVE AND SOMATIC HEALTH PARAMETERS IN CHILDREN OF SCHOOL AGE**

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**Aim** The aim of the study was to determine the links between cognitive, educational and somatic factors in a cohort of Russian 11-year-olds.

**Material and Method** The study included 5th grade students of Russian schools from large cities of all federal districts of the Russian Federation (RF). The links between integrative cognitive success, cognitive test results, academic performance, leading hand and somatic factors were analyzed: the presence of skin pathology, bronchial asthma, orthopedic, ophthalmological disorders, visual acuity, body mass index, respiratory disorders, electrocardiography, ultrasound examination of the thyroid gland, laboratory blood tests.

**Results** The results of the survey of 1036 participants, 51% of them girls, were admitted to the analysis. It was found that the concentration of iron is directly related to integrative cognitive success ( $p = 0,019$ ) and school performance ( $p = 0,030; 0,036; 0,042$  for different subjects), the relationship is especially strong between the subgroups of participants identified by iron concentration above and below 26.45 mmol/l ( $p = 0,001$ ). Clinical levels of erythrocytes are more strongly associated with integrative cognitive success and individual cognitive functions than other factors: in erythropenia, cognitive parameters are worse. The presence of thyroid cysts directly correlates with some of the worst cognitive performance parameters. High body mass index and low hemoglobin are associated with poorer academic performance. The frequency of myopia reaches 27.9%.

**Conclusions** From a wide range of somatic parameters, the iron index stands out as the most strongly associated with cognitive activity and educational success. This indicates the importance of a full intake of iron with nutrition and monitoring its level, especially during the periods of the most active formation of cognitive functions in early and preschool age. It is necessary to study in-depth the norms of iron concentration in the blood in terms of their influence on the formation of cognitive functions in children.