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Introduction & Objectives: The development of ESWL equipment over the years has made it safe and effective. Reducing the focus of the ultrasound wave allows avoiding the complications of damage to neighboring organs. The introduction of piezoelectrics also reduced the pain during the procedure and the need to use painkillers. This allowed to perform treatments in almost every age group of patients.

The aim of the study is to show the possibility of performing ESWL treatment in children of all age groups in the one-day surgery mode as a safe, effective and reducing treatment costs.

Materials & Methods: The full data evaluation assessed 420 children (aged 1 – 18; mean 8,7) treated for urolithiasis with the application of ESWL method. The procedures were done since 2010. The treatment was applied to children with stones in the kidney and in the ureter not promising spontaneous expulsion with urine. All surgeries was performed under anesthesia – analgo-sedation. Stone size range 5-22 mm, mean 10.7. The length of the treatment is from 35 to 60 min. The length of stay is from 5-7 hours, in the children's urology department one day. Energy fractionation during the procedure was used. Pulse frequency = 1 / sec. Treatments were carried out under constant ultrasound control. C-arm was used for localization less than 8% of deposits. The children were discharged home on the same day. Antibiotic therapy was selected individually.

Results: None of the children required urgent admission to the hospital during the night. Control ultrasound was performed at the clinic the next morning. No hematoma was found.

Overall efficiency was 89%. Only 4% after the control ultrasound required admission to the hospital to perform URS-L surgery. Steinstrasse was observed only in 3 cases. Hematuria in 30%. Cost of treatment can be reduce up to 60%.

Conclusions: ESWL is the treatment of choice for lithiasis in children. As a one day surgery procedure it can reduce children and parents stress associated with admission to the hospital. It seems, that with good preparation it is effective and safe method of treatment urolithiasis.