Introduction. Acute respiratory viral infections (ARVI) is the most common children’s pathology that is often complicated in infants. Peculiarities of ARVI in children with increased size of thymus are associated with the presence of more or less significant immunodeficiency state and dyshormonosis with manifestations of adrenal insufficiency. **Objective** - to study the peculiarities of acute respiratory viral infections and investigate adrenal function in infants with tymomegaly. **Material and methods.** 41 children in the age of 1 month to 3 years with thymomegaly and complicated forms of ARVI were involved in clinical studies. Presence of thymomegaly was confirmed by X-ray investigation of the chest, according to it cardiothymic-thoracic ratio was calculated. Etiological decoding of was carried out with the use of paired serum samples. The content of cortisol in the blood plasma was determined by immunoenzymene method using commercial diagnostic kits. 36 children with thymomegaly without manifestation of ARVI within at least 3 months were in comparison group. **Results.** Genealogy analysis of relatives of the first and second lines’ of cognition of children with thymomegaly, showed high frequency of malignancies occurrence, autoimmune diseases and diseases of the endocrine organs among relatives. Analysis of the patients with thymomegaly anamnesis showed that most of them had adverse conditions at different stages of antenatal, intrapartum and postnatal development. Antenatal period of the majority of children with thymomegaly was complicated by chronic hypoxia caused by acute infectious diseases or exacerbation of chronic extragenital diseases of their mothers (vascular dystonia, anemia, preeclampsia). Complications of intranatal period was marked by no less than in 2/3 of children with thymomegaly syndrome. The most frequent complications of this period were rapid or prolonged labor that led to the imposition of forceps or emergency caesarean section. Gestoses were recorded in 46.3% of cases, intrauterine infection - in 29.2%, pathologic delivery - in 90.3%, early artificial feeding - in 60.9%. Analysis of size of the thymus gland data showed that III – IV degree of thymomegaly is often observed in children with signs of constrictive laryngotracheitis (75.0%). 23.5% of patients with obstructive bronchitis had I degree thymomegaly, the rest - III and IV degrees. In case of nonobstructive lesions of the bronchi, the opposite tendency took place: the least degree of thymomegaly was diagnosed in 62.5%, and III and IV - in 37, 5% (p <0.05). The lowest supply by cortisol was observed in the acute period of constrictive laryngotracheitis (409,4±10,2 nmol / ml against 537,7±11,5 nmol / ml in the comparison group, p <0.05). In the acute period of ARVI, complicated by bronchitis, cortisol levels ware not increased - 432,3±32,3 nmol / ml. In the group of patients with pneumonia we have recorded reliable, probably compensatory, increasing of cortisol level (787,3±2,0 nmol / ml, p <0.05). In case of obstructive bronchitis in acute period, only tendency towards increasing of the concentration of cortisol in blood (562,9±18,9 nmol / ml) was observed. Restore of adrenocortical function during recovery of infants with thymomegaly was also inhomogeneous. Significantly close to physiological parameters appeared in children who recovered after acute bronchitis. Cortisol supply of patients with pneumonia at the time of recovery did not differ from baseline for children with
thymomegaly. The amount of cortisol increased in the dynamics of constrictive laryngotracheitis (to 528.5±22.6 nmol / ml) the most fast.

Conclusions.

1. Thymomegaly in children of early age is a pathology that leads to development of various complications in case of acute respiratory viral infections.

2. Implications of acute respiratory viral infections in infants with thymomegaly appear early, have grave and long course.

3. In infants with thymomegaly every complication of acute respiratory viral infections is characterized by certain features of adrenocortical function, both in the acute period, and during the recovery, which demands an individual approach to the prescription of glucocorticoid drugs to certain patients.

4. Children with thymomegaly are in the group of risk for the development of bronchopulmonary complications of acute respiratory viral infections.