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**Biomarkers of endothelial dysfunction in children with atypical
hemolytic uremic syndrome**

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Introduction

Hemolytic uremic syndrome (HUS) is a heterogeneous group of hemolytic disorders characterized by acute renal failure, microangiopathic hemolytic anemia and thrombocytopenia. There are 2 main forms of this disorder: typical HUS (tHUS), caused by Shiga-toxin producing *Escherichia coli* and atypical HUS (aHUS), associated with uncontrolled complement activation through the alternative pathway [3,4]. Eculizumab, a humanized anti-C5 monoclonal antibody, has recently been introduced as a novel therapy against aHUS, which significantly improved prognosis of this disorder [2]. However, optimal duration of eculizumab therapy and whether it can be discontinued in remission still remains unclear [1,5]. We proposed that endothelial activation followed by dysfunction might indicate subclinical complement activation in remission of aHUS and assessed the levels of cell adhesion molecules (biomarkers of endothelial activation) and C3 complement component in these patients.

Patients and methods. 58 children with aHUS remission were examined. 22 children were treated with eculizumab (group1), 16 children did not receive this drug (group 2). The duration of remission was 22±20 months and 22±21 months respectively.

Serum concentrations of C3 complement component, soluble intracellular adhesion molecule-1 (sICAM-1) and vascular cell adhesion molecule (sVCAM-1) were measured by enzyme-linked immunosorbent assay. Leucocyte and thrombocyte counts, hemoglobin, creatinine, urea, LDG levels were determined as well.

Results. Serum levels of C3, sICAM-1 and sVCAM-1 were within normal age ranges in both groups. Children from group 1 showed increased sICAM-1 levels (478 ± 102 pg/ml vs 343 ± 50 pg/ml) compared to group 2 ($p < 0,05$). There was a tendency to higher sVCAM-1 levels in group 1 (statistically unreliable). No differences in thrombocyte counts, hemoglobin, creatinin, creatinine, urea, LDG and C3 levels were revealed. Leucocyte counts in group 1 were higher ($7,5 \pm 2,3$ vs $5,8 \pm 1,3$, $p < 0,05$).

Conclusion. Hence, no signs of subclinical complement activation or endothelial disfunction were revealed in the group free of eculizumab therapy. Normal serum levels of C3, sICAM-1 and sVCAM-1 indicate that normal endothelial state could be restored in aHUS and this condition is maintained after discontinuation of the targeted therapy. Our results suggest that C3, sICAM-1 and sVCAM-1 monitoring may be useful for further management of these patients and for prediction of relapses.

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Возрастная динамика потребности в амбулаторной медицинской помощи у женщин по поводу злокачественных новообразований

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Актуальность

Одна из базовых задач государственной политики в сфере здравоохранения является обеспечение высокой доступности медицинской помощи для населения Российской Федерации [1,2]. Планирование необходимых объемов медицинской помощи, в том числе и амбулаторной, является важнейшим этапом организации медицинского обслуживания населения, а также во многом определяет эффективность всей системы здравоохранения. Наиболее оптимально анализ потребности проводить по поводам обращения, а не по медицинским специальностям. Тем более, на ранних этапах развития некоторых заболеваний, например новообразований, пациент скорее всего будет обращаться не к профильному специалисту. Также имеет огромное значение возрастная динамика объема потребности в медицинской помощи, что необходимо учитывать при анализе на конкретной территории с учетом ее демографических особенностей [3,4,5].

Целью настоящего исследования стал анализ возрастной динамики потребности в амбулаторной медицинской помощи по поводу злокачественных новообразований у женщин.

Материалы и методы

Использованы данные о причинах обращений 78000 пациентов женского пола в течение одного года в медицинские организации, оказывающие амбулаторную