

Lyell's Syndrome and Acute Renal Failure as Complications of Drug Therapy

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Annotation: Lyell's syndrome (toxic epidermal necrolysis, scalded skin syndrome) is the most severe type of allergic bullous dermatitis. Named after Scottish dermatologist Alan Lyell (1917–2007), who first made a detailed description of the disease in 1956. Most often, Lyell's syndrome is a reaction to medications. Basically, Lyell's syndrome develops in people with a burdened allergic history, most often against the background of an acute respiratory viral infection (ARVI), for which patients were taking medications. The patient's condition progressively worsens, symptoms of intoxication are expressed, and the temperature rises. A skin rash appears like measles or scarlet fever with isolated painful elements. After a few hours, large flat blisters with serous or serous-hemorrhagic contents appear at the site of the rash and on previously unchanged skin. They quickly open with the appearance of extensive erosions of a bright red color. A positive Nikolsky symptom is characteristic - when healthy skin is lightly rubbed, desquamation of the epidermis occurs and the weeping surface is exposed. Toxic-allergic damage to the heart, liver, abdominal organs, and kidneys may occur. In the absence of timely emergency care, the likelihood of death is high.

Patient Nurmetova Reymazhon, born in 2013, was admitted to the Khorezm branch of the Republican Research Center for Medical Treatment in the department of toxicology and ECD (case history No. 312/58) on 02.01. 2022 at 20.30 with complaints (according to the mother) of the absence of independent urination for 3 days, swelling throughout the body, the presence of skin rash and flat blisters, cough, lack of appetite, nausea, vomiting.

From the anamnesis: on December 2, 2021, the patient underwent surgery - craniotomy, removal of a brain cyst, since then she has been taking carbamazepine 200 mg, ½ tablet x 2 times a day. 4 days ago, urination decreased, a day later spontaneous urination stopped, and swelling appeared.

Objectively: the patient's general condition is severe, drowsy, and at times there is psychomotor agitation (encephalopathy).

On the skin of the patient's body, skin rashes, flat blisters with serous contents, and some opened red blisters are visually visible. Peripheral lymph nodes are not enlarged. Musculoskeletal system without deformations. In the lungs there is weakened vesicular breathing, breathing cannot be heard in the lower parts, respiratory rate is 30 per minute. Cor – tones are muffled, A/D 140/80 mmHg, pulse 115 per minute. The tongue is covered with a white coating, the abdomen is soft and painless. The liver and spleen are slightly enlarged. The kidney area is unchanged, painless on palpation; the tingling symptom is negative on both sides. Diuresis is absent for 3 days. Stool tends to be constipated in recent days.

Examination: blood test – Hb – 95 g/l, leukocytes – 14800, clotting time: start – 1.30, end – 2.30.

Biochemical blood test: total bilirubin – 18.7 $\mu\text{m/l}$, bound – abs, free – 18.7 $\mu\text{m/l}$, urea – 15.7 mmol/l, creatinine – 458 $\mu\text{mol/l}$, total protein – 49.7 g /l.

Ultrasound scan shows a picture of acute nephritis.

MSCT of the chest: areas of infiltration of the left lung. Hydrothorax on both sides. Ascites. Subcutaneous emphysema.

MSCT of the kidneys and urinary tract: signs of acute nephritis on both sides.

Based on the above, it was established

Diagnosis: Main: Allergic condition to (carbamazepine) drugs, severe form.

Complications: Lyell's syndrome. Acute renal failure, renal anuria.

Concomitant: SPO of craniotomy with removal of a subdural cyst (02.12.21).

The patient was examined by a nephrologist, toxicologist, resuscitator and combustologist. Intensive therapy was urgently started and a hemodialysis session was performed, ultrafiltration 400.0 ml. Blood pressure before hemodialysis 140/100 mmHg, after hemodialysis 120/80 mmHg.

By the morning, the patient began to urinate 100.0 ml on her own, then another 150.0 ml before repeated hemodialysis.

01/03/2022 from 16.20 to 17.40 a repeat hemodialysis session was performed, ultrafiltration 500.0 ml, daily diuresis 2300.0 ml. 01/04/2022 daily diuresis 3750.0 ml. At the same time, intensive therapy and appointment of a combustologist continued. The patient is conscious and answers questions to the point. The patient developed an appetite and stool independently. On 01/05/2022 at 15.00, the patient was transferred to a multidisciplinary regional children's hospital for further observation and treatment in the nephrology department.

At a follow-up examination a month later (02/10/22):

The patient has no complaints.

Objectively: there are no skin rashes on the body, the ulcers have completely healed, the skin and visible mucous membranes are of normal color.

Ultrasound examination of internal organs shows no changes.

Laboratory tests: blood test – Hb – 112 g/l, leukocytes – 8700, clotting time: start – 2.55, end – 5.04.

Biochemical blood test: total bilirubin – 15.4 $\mu\text{m/l}$, bound – abs, free – 15.4 $\mu\text{m/l}$, urea – 5.6 mmol/l, creatinine – 98 $\mu\text{mol/l}$, total protein – 66.2 g /l.

The patient and parents were given advice and recommendations.

Conclusion: with timely treatment of patients and correct diagnosis, as well as with the provision of timely assistance to patients with Lyell's syndrome and other complications of drug allergies, a complete recovery can occur, as proven by our clinical case from practice.

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