

An unexpected enemy - aspergillosis in the course of childhood acute lymphoblastic leukaemia

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1. INTRODUCTION

Acute lymphoblastic leukemia - ALL

- the most common cancer in children
- is a cancer of the lymphoid line of blood cells characterized by the development of large numbers of immature lymphocytes
- well-diagnosed and treated ALL allows a 5-year survival rate of up to 90% in pediatric patients.

3. CONCLUSIONS

The treatment of infections in patients with ALL, as well as Aspergillosis, requires intensive therapy and even surgical intervention. Regular monitoring and management of complications are crucial for the long-term survival of patients.

2. CASE DESCRIPTION

A 3 year and 6 month old girl was referred to the ward with suspected hematopoietic proliferative disease. Laboratory tests revealed leucopenia, neutropenia and significant anaemia.

Bone marrow aspiration biopsy showed a hypocellular marrow with 23.6% young blastic cells. Flow cytometry showed 42% B lymphocyte precursor cells. The patient's morphology results steadily improved, and a subsequent biopsy showed the absence of atypical cells.

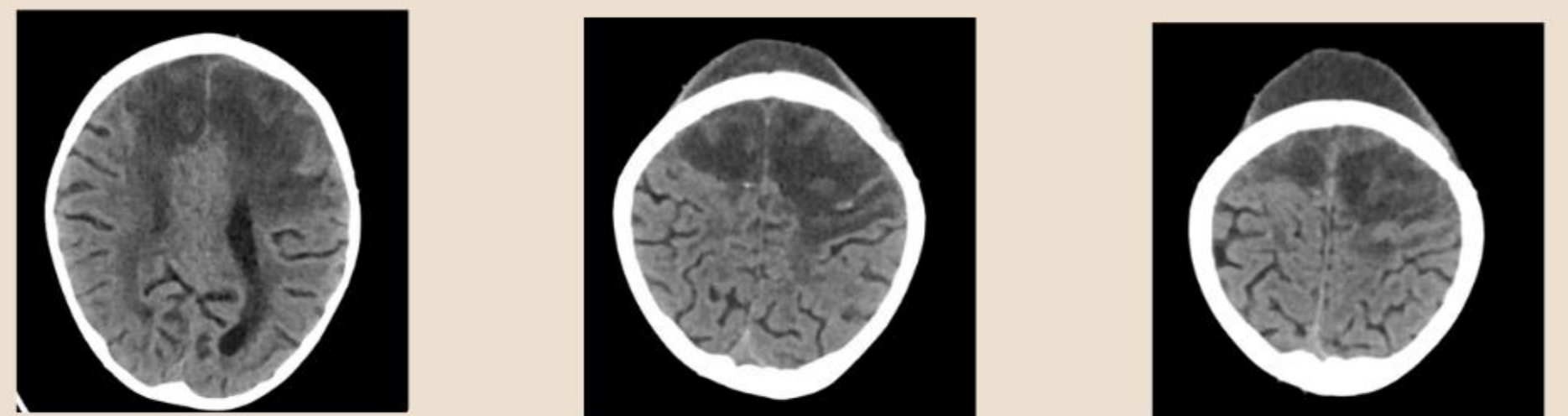
! After 5 days

There was a skin protrusion in the cranial region.



MYCELIAL STRANDS OF ASPERGILLUS (ASPERGILLOSIS) IN THE LIQUEFIED BRAIN TISSUE

! Neurosurgical evacuation of intracranial necrotic lesions was performed



! Day 11 after neurosurgery

Patient returned for further oncological treatment.

! During hospitalization



Chest CT - massive inflammatory changes with visible fluid in the left pleural cavity with a mantle thickness of 4-5 mm.

Surgical treatment of head wound: necrotic tissue removal and local medication. Hematological treatment halted due to child's condition and neurosurgeon's decision. Remission and relapse monitored via bone marrow biopsies and lumbar punctures. No improvement in CNS and lung inflammation despite broad-spectrum treatment.

! 5.5 months after leukemia diagnosis

Left lung lower lobe resected.

Post-op: reduced breath sounds, air-fluid level on X-ray.

Another month later: The lesions in the left lung were resected, with no further progression of the fungal infection observed.

! Antifungal treatment was continued, resulting in stabilization of the process.

1.5 years after the initial diagnosis, the disease relapsed. Despite intensive treatment, including a family transplant, no reactivation of the fungal infection was observed.



AFTER ONE MONTH

- The morphology performed showed 90 % atypical cells in the smear.
- A bone marrow aspiration biopsy was performed, where 95 % of the blasts were found.



ALL pre B acute lymphoblastic leukaemia was diagnosed, with no BCR:ABL or MLL rearrangements

Chemotherapy according to the IA Protocol of the ALLIC-BFM Programme 2009 was started

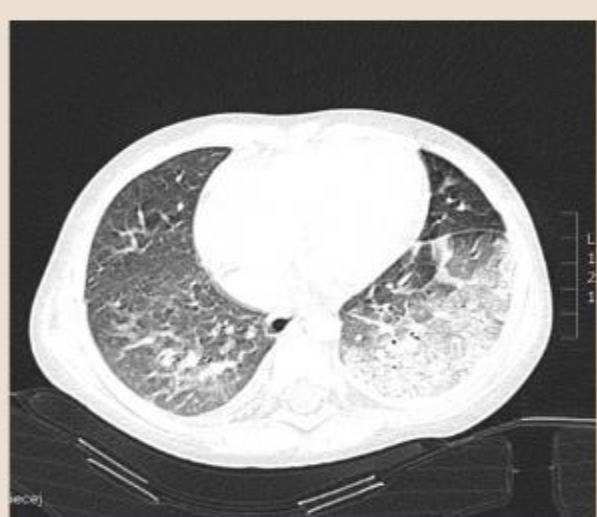
! From the 18th day of treatment the patient's condition worsened

- increase in inflammatory parameters
 - clinical deterioration
 - the patient was lethargic, manifested worse mood and appetite, and was febrile.
- **Broad-spectrum antibiotic therapy**



No improvement in the child's condition ☹️

! On day 22 of therapy a contrast-enhanced chest CT was performed



In the left lung, massive inflammatory densities intensified in the paravertebral parts and a single one on the right side.

Antifungal drugs (v-fend) were included

! In the afternoon hours of the same day

The girl's condition continued to deteriorate, a seizure occurred.

Head CT — hypodense foci in the frontal parts of both parietal lobes corresponding to ischaemic lesions

! The following day

- Multiple episodes of partial seizures
- She was respiratory and circulatory stable but without contact
- Quadriplegia flaccid paralysis

REFERENCES

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