Objectives: To improve the diagnosis and treatment of hematological diseases combined with fungal sinusitis.by identifying the clinical characteristics, high-risk factors, preventive breakthroughs, surgical treatment and prognosis of 24 patients with hematological diseases combined with fungal sinusitis in our hospital, aiming to

Materials & Methods: A single-center retrospective analysis of patients who underwent sinus surgery in the Space Center Hospital from July 21, 2014 to February 12, 2025 totaled 58 patients, of which 4 patients were diagnosed in outside hospitals and then treated with sinus surgery in our hospital only, and incomplete follow-up data were removed after discharge. of whom 24 patients underwent sinus surgery (SS) in addition to the antifungal therapy Their clinical features, prevention and treatment, and prognosis were analyzed. Detailed clinical features are shown in the table below .RESULTS: Fungal sinusitis has various predisposing factors, mainly underlying diseases, long-term use of broad-spectrum antibiotics, granulocyte deficiency or immunodeficiency, and combination of fungal infections in other parts of the body such as lung and fungal sepsis. Prophylactic antifungal infection treatment is essential in such patients. A retrospective analysis revealed that, among 24 patients, 2 had aplastic anemia, 1 had EBV-associated T-lymphoproliferative disease, 1 had EBV-associated phagocytosis syndrome, and 22 had hematologic malignancies. Eight (33.33%) were non-granulocyte deficient at the time of infection and the remaining 18 (75.0%) patients had granulocyte deficiency duration ranging from 3 to 185 days. Two patients had coexisting Fusarium septicemia and one had coexisting meningeal septicemia with Elizabethkindella septicemia. Sinus histopathology or tissue culture positive organisms were seen in 1 case (4.17%) of Polyporus Boydsey, 1 case (4.17%) of Candida montana, 3 cases (12.5%) of Fusarium, 8 cases (33.33%) of Trichoderma, 8 cases (33.33%) of Aspergillus, 1 case (4.17%) of mixed infection of Aspergillus and Trichoderma, and 2 cases of unspecified nature of the fungus. 2 cases (8.33%) were not diagnosed with Fusarium. (8.33%) were not treated with prophylactic antifungal infections, while the remaining 21 cases were treated with different prophylactic strategies but all were breached. monoprophylaxis: polyenes in 4 cases (16.67%); triazoles in 7 cases (29.17%), including voriconazole in 6 cases (25.0%) and posaconazole in 1 case (4.17%). Secondary prophylaxis: voriconazole and polyenes in 5 cases (20.83%), posaconazole and polyenes in 2 cases (8.33%), and esaconazole and polyenes in 1 case (4.17%). Triple prophylaxis: triazoles, polyenes and echinocandins in 2 cases (8.33%). All patients were concomitantly administered at least 1 broad-spectrum antibacterial antibiotic.

Results: No antifungal treatment was given in 1 case, who improved after surgery and is still alive. 4 cases of monotherapy polyenes, 2 cases of triazoles, 15 cases of two-combination therapy: triazoles combined with polyenes, and 1 case of three-combination therapy: triazoles, echinocandins, and polyenes.Of the 24 patients, 17 cases (70.83%) had improvement in sinus symptoms assessed at 4 weeks, 1 case of sinusitis continued to progress (4.17%), and leukemia progressed and abandoned the treatment at 45 days after the operation.7 cases (29.17%) abandoned the treatment due to other reasons , of which 3 cases (12.5%) had leukemia relapse, 1 case (4.17%) had ventricular fibrillation, 1 case (4.17%) had gastrointestinal bleeding, and 1 case (4.17%) had respiratory failure due to disseminated fungal infection in the lungs.Sinus symptoms were assessed to be improved in 14 cases (58.33%) at 8 weeks, and 1 case (4.17%) had died due to complications related to stem cell transplantation, 1 case (4.17%) leukemia relapse. Only 7 (29.17%) patients have survived so far.

Conclusions: Fungal sinusitis has an insidious onset, rapid progression, high mortality, drug therapy cannot reach effective action concentration locally in the sinuses, poor therapeutic effect and high mortality,