A 20-year-old man presented with a 3-week history of nodular lesions of the scalp (Fig. 1a, b), which progressed despite topical treatment with glucocorticosteroids. He also had cervical lymphadenopathy and complained of headache, fatigue and blurred vision. His blood count demonstrated a pronounced leukocytosis of 114/nL with 55% lymphoblasts, slight thrombocytopenia (83/nL) and a normal hemoglobin level (150 g/L). The serum levels of lactate dehydrogenase (LDH 6402 U/l), creatinine (1.94 mg/dl) and uric acid (16.1 mg/dl) were significantly elevated, and there were laboratory findings indicative of disseminated intravascular coagulation (INR 1.69, d-dimer 5053 μg/L).
Microscopic and flow cytometric analyses of blood and bone marrow were consistent with acute lymphoblastic leukemia (ALL) of mature T cell type. The chest X-ray revealed a mediastinal mass (Fig. 1c). Treatment was started with oral dexamethasone at a dose of 10 mg/m² per day (d1–5) and cyclophosphamide 200 mg/m² per day (d3–5) (German Multicenter ALL Study Group; study protocol GMALL 07/2003). As early as 3 days after the first dose, the skin lesions and the mediastinal mass regressed completely (Fig. 1d), paralleled by a dramatic improvement of the leukocyte count (11.83/µl) and the serum values of LDH (1179 U/l) and creatinine (1.18 mg/dl). A mediastinal mass is present in over half of patients with newly diagnosed ALL of T cell origin, but skin lesions are rare.