



Fig. S1. Kaplan–Meier survival curve of this cohort of 9 patients showed: (A) a 3-year overall survival rate of 70% and (B) a 3-year disease-free survival rate of 58.3%. Patient 2 initially experienced CR, but later experienced a rapid relapse in the skin of the right shoulder outside of the radiation field and in the right axillary and intra-abdominal lymph node 2.4 months after completing radiotherapy (RT). He subsequently received salvage chemotherapy with several regimens, including cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP); etoposide, methylprednisolone, cisplatin, and cytarabine (ESHAP); and ifosfamide, carboplatin, and etoposide (ICE), but died from progression of the disease. Patient 5 initially exhibited PR after RT, but developed generalized skin involvement 4.1 months after completing RT. He died of lymphoma despite salvage chemotherapy with CHOP. Patient 8 exhibited a relapse in the right buttock after 2.9 years of CR post-initial RT and received wide excision of the relapsed tumour. He was still alive after 9.11 years at the time of analysis. An initial thorough physical examination of the whole-body cutaneous findings, bone marrow study, laboratory investigations, and whole-body computed tomography scans did not reveal lymph node involvement or any cutaneous lesions other than the index lesions in these 2 patients. Thus, the relapse sites for Patients 2 and 5 were most likely secondary. Although Patients 2 and 5 exhibited disease progression soon after RT (2.4 and 4.1 months, respectively), published studies have revealed that rapid recurrence of CD30⁺ PCALCL occurs within 2–8 months after treatment (2–4). According to the chronological changes in involved sites and the reported relapse time-frame of skin lesions, the 2 patients were classified as having CD30⁺ PCALCL with subsequent recurrence.

Table SI. Value of surface dose (Ds) and therapeutic depth (R90) for various energy-bolus combinations

| | Bolus thickness | | |
|-------------------------|-----------------|--------|------|
| | 0 cm | 0.5 cm | 1 cm |
| Electron energy: 6 MeV | | | |
| Ds (%) | 72 | 83 | 93 |
| R90 (cm) | 2.0 | 1.5 | 1 |
| Electron energy: 9 MeV | | | |
| Ds (%) | 78 | 85 | 89 |
| R90 (cm) | 3.0 | 2.5 | 2.0 |
| Electron energy: 12 MeV | | | |
| Ds (%) | 83 | 89 | 91 |
| R90 (cm) | 4.0 | 3.5 | 3.0 |

Table SII. Patient characteristics

| Pat. No. | Sex/age, years | Location | Size and number of tumours | T stage | Radiotherapy dose (cGy) | Response |
|----------|----------------|-----------------------------|--|---------|-------------------------|--------------------|
| 1 | F/48 | Right periumbilical abdomen | Solitary tumour 1 cm | 1a | 3,600 | Complete remission |
| 2 | M/45 | Bilateral cheek | Grouped of nodules occupying up to 4 cm and 5 cm at right and left cheek, respectively | 2a | 4,000 | Complete remission |
| 3 | M/37 | Left thigh | Solitary tumour 4 cm | 1a | 4,000 | Complete remission |
| 4 | M/40 | Left hand | Solitary tumour 2 cm | 1a | 3,600 | Complete remission |
| 5 | M/51 | Left knee and thigh | Solitary tumour 3.5 cm | 1a | 5,040 | Partial remission |
| 6 | M/46 | Right thigh | 2 tumours of 2 cm and 3 cm | 2a | 3,600 | Complete remission |
| 7 | M/16 | Left buttock | Solitary tumour 6 cm | 1b | 4,000 | Complete remission |
| 8 | F/29 | Left thigh | Solitary tumour 3 cm | 1a | 5,000 | Complete remission |
| 9 | M/22 | Right thigh | Grouped of nodules occupying up to 7 cm | 2a | 4,400 | Complete remission |

T stage: solitary skin involvement <5 cm (1a), >5 cm (1b); 2a: regional skin involvement: multiple lesions limited to 1 body region or 2 contiguous body regions with all-disease-encompassing in a <15-cm diameter circular area. Patients were staged according to the tumour, node, metastases classification system according to proposals of the International Society of Cutaneous Lymphomas and European Organization for Research and Treatment of Cancer.

Table SIII. Summary of curative radiation results for CD30+ primary cutaneous anaplastic large-cell lymphoma

| Reference | Patients treated with curative radiation | Response to radiation | Disease control status |
|-------------------------|--|--|--|
| Bekkenk et al. (2) | 38 | N/A (99% CR rate for entire cohort receiving radiation, excision, or chemotherapy) | Median DFS: 23 months for entire cohort |
| Beljaards et al. (3) | 9 | N/A (97% CR rate for entire cohort receiving radiation, excision, or chemotherapy) | Four skin relapse at 2, 10, 12 and 30 months, whereas 1 lymph node relapse at 3 months |
| Shimizu et al. (4) | 1 | Complete remission | Disease-free for 5 months |
| Liu et al. ^a | 7 | Complete remission: 6/7 (85.7%) | 2 recurrences |
| Yu et al. ^b | 8 | Complete remission: 8/8 (100%) | All patients in CR (1 patient died of unrelated causes) |
| Present study | 9 | Complete remission: 8/9 (88.9%), PR 1/9 (11.1%) | 3-year DFS: 58.3%; 3-year OS: 70% |

^a Liu HL, Hoppe RT, Kohler S, Harvell JD, Reddy S, Kim YH. CD30+ cutaneous lymphoproliferative disorders: the Stanford experience in lymphomatoid papulosis and primary cutaneous anaplastic large cell lymphoma. *J Am Acad Dermatol* 2003; 49: 1049–1058.

^b Yu JB, McNiff JM, Lund MW, Wilson LD. Treatment of primary cutaneous CD30+ anaplastic large-cell lymphoma with radiation therapy. *Int J Radiat Oncol Biol Phys* 2008; 70: 1542–1545.

N/A: not available; PR: partial remission; DFS: disease-free survival; OS: overall survival.