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# CD30 Expression in Cutaneous B-Cell Lymphomas

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## Introduction

CD30 expression has been infrequently described in cutaneous B-cell lymphomas (CBCL). We examined CD30 expression in reactive lymphoid hyperplasia (RLH) and CBCL and correlated expression with clinicopathologic features.

## Methods

CD30 was examined in 82 CBCL patients and 10 RLH patients that had been evaluated in our cutaneous lymphoma clinics. The CBCL patients included: primary cutaneous follicle center lymphoma (PCFCL), Grade 1/2 systemic/nodal follicular lymphoma (SFL); Primary cutaneous marginal zone lymphoma/lymphoproliferative disorder (PCMZL/LPD); systemic marginal zone lymphoma (SMZL); primary cutaneous diffuse large B-cell lymphoma, leg type (PCDLBCL-LT); and extracutaneous/systemic diffuse large B-cell lymphoma (eDLBCL). We scored CD30 expression in each case for intensity and extent and related CD30 expression to age at first diagnosis, sex, site of biopsy, clinical appearance, extracutaneous involvement, multiple cutaneous lesions, B-symptoms, lymphadenopathy, positive positron emission tomography/computed tomography (PET/CT), elevated lactate dehydrogenase (LDH), and positive bone marrow biopsy.

## Results

CD30 expression was identified in 35% of CBCL, ranging from few, weak, scattered cells to strong and diffuse expression. It was most commonly present in PCFCL and never expressed in PCDLBCL-LT. Rare PCFCL expressed strong, diffuse CD30, causing diagnostic confusion with anaplastic large cell lymphoma. Some cases of PCMZL/LPD, SMZL, FL and RLH showed scattered, strongly positive cells mimicking lymphomatoid papulosis, type A. CD30 expression differed significantly by diagnosis ( $p < 0.0001$ ), site ( $p = 0.242$ ) and clinical appearance ( $p = 0.035$ ). CD30 expression was associated with favorable clinical features, such as younger age ( $p < 0.0325$ ), negative PET/CT ( $p = 0.0340$ ) and an LDH within normal limits ( $p = 0.0013$ ).

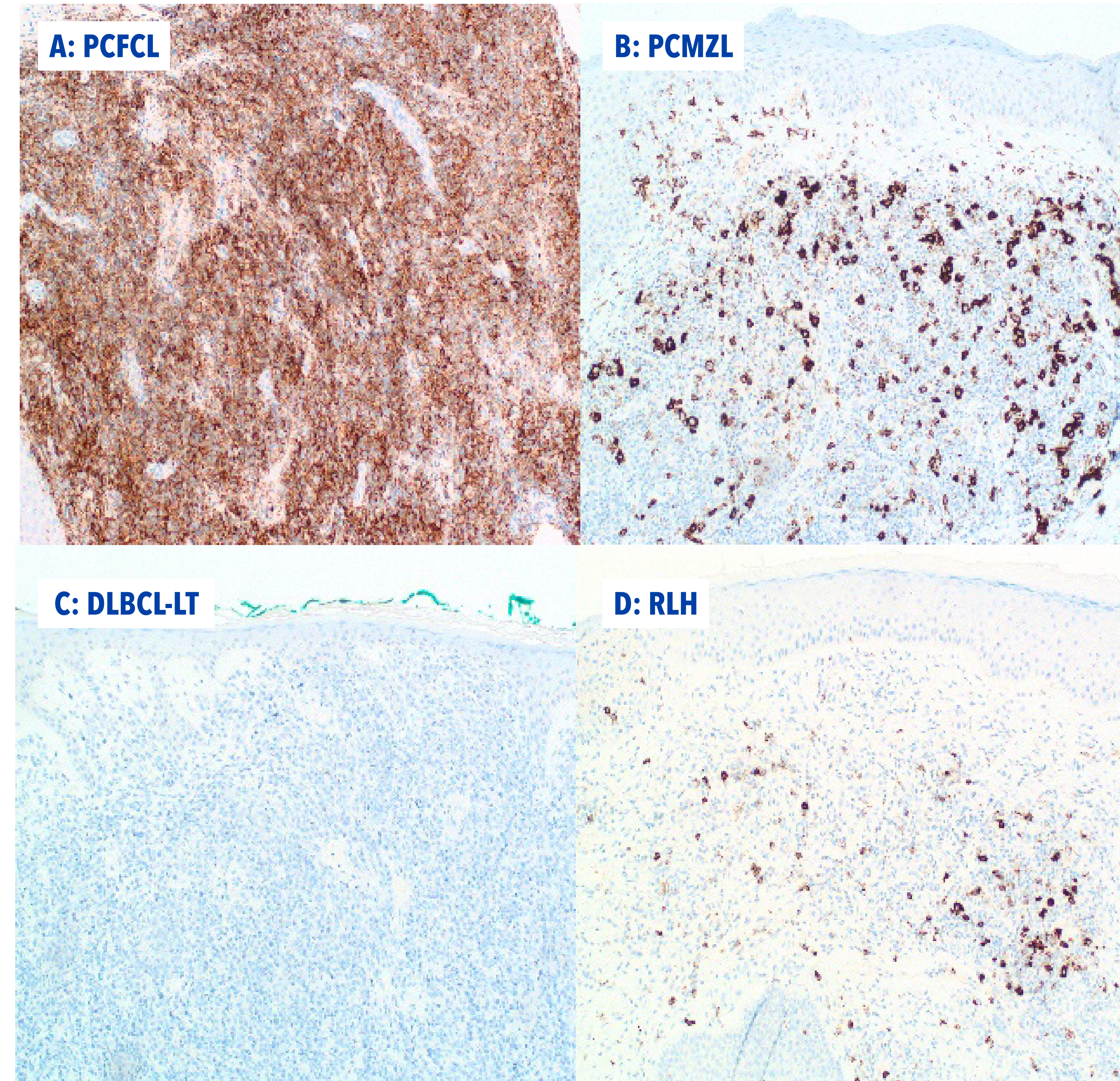


Figure 1. CD30 Expression Patterns in A. PCFCL B. PCMZL C. DLBCL-LT D. RLH

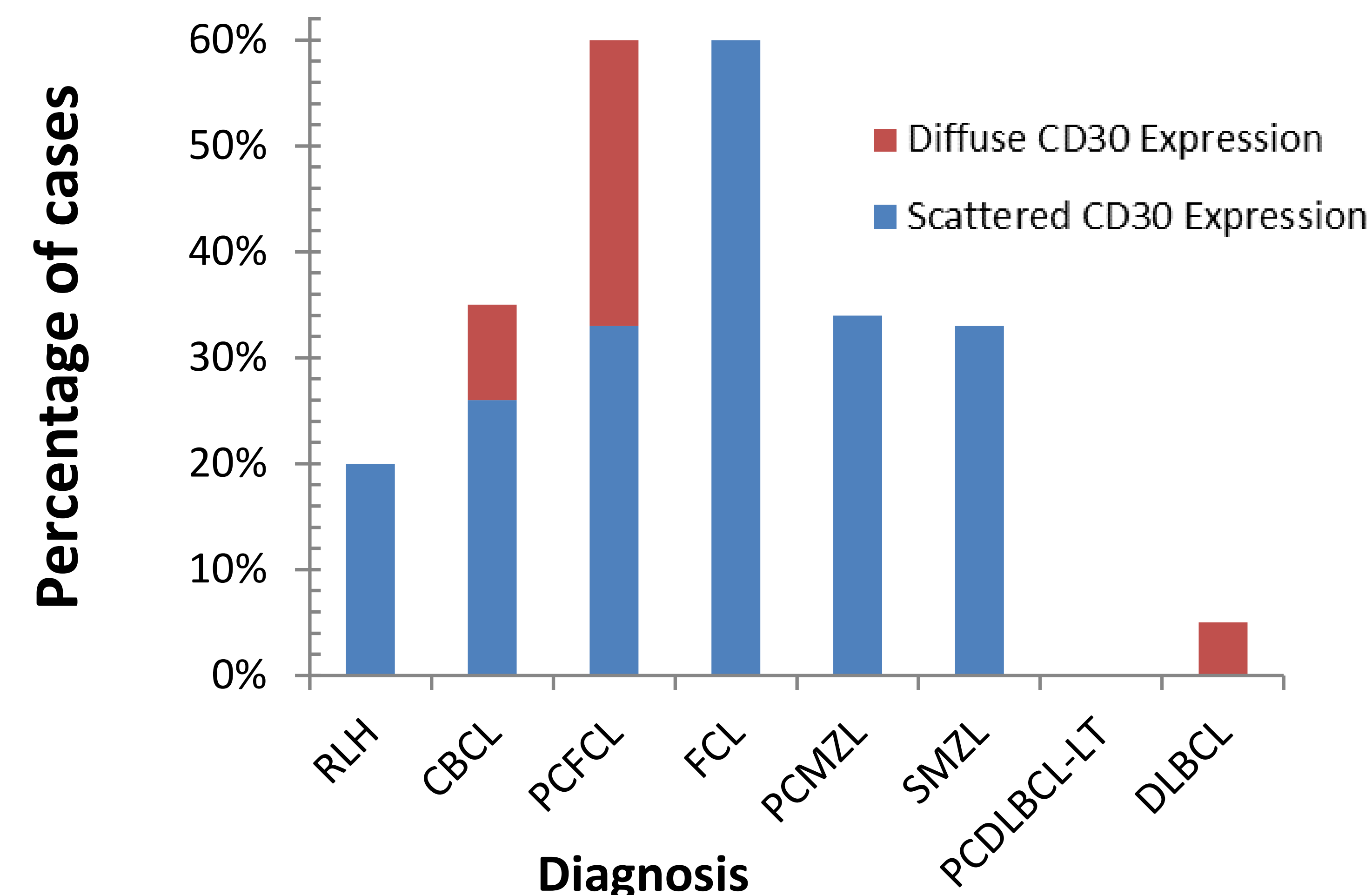


Figure 2. Bar diagram of Patterns of CD30 Expression in RLH and CBCL

Table 1. Clinicopathologic Features of RLH and CBCL by CD30 Expression

| Characteristics                     | CD30 Expression    |          |       |
|-------------------------------------|--------------------|----------|-------|
|                                     | Negative           | Positive |       |
| Age*                                | N                  | 78       | 40    |
|                                     | Median (Years)     | 58       | 50    |
|                                     | Standard Deviation | 18.0     | 20.3  |
| Diagnosis*                          | RLH                | 8        | 2     |
|                                     | FCL                | 15       | 23    |
|                                     | MZL                | 27       | 14    |
|                                     | DLBCL              | 28       | 1     |
| Sex                                 | Female             | 28       | 9     |
|                                     | Male               | 50       | 31    |
| Site of Biopsy*                     | Extremity          | 41       | 11    |
|                                     | Head and Neck      | 24       | 16    |
|                                     | Trunk              | 13       | 13    |
| Clinical Appearance*                | Nodule             | 38       | 12    |
|                                     | Papule             | 17       | 11    |
|                                     | Patch              | 0        | 4     |
|                                     | Plaque             | 18       | 12    |
|                                     | Tumor              | 2        | 0     |
|                                     | Ulcer              | 1        | 1     |
| Multiple Cutaneous Lesions          | Yes/No             | 58/20    | 30/10 |
| Involvement of Extracutaneous Sites | Yes/No             | 27/51    | 7/33  |
| B Symptoms                          | Yes/No             | 12/66    | 2/38  |
| Lymphadenopathy                     | Yes/No             | 18/60    | 4/36  |
| Positive PET CT scan*               | Yes/No             | 26/52    | 6/34  |
| Elevated LDH*                       | Yes/No             | 21/57    | 1/39  |
| Positive Bone marrow biopsy         | Yes/No             | 11/67    | 4/36  |

\*Statistically significant; Positive defined as  $\geq 5\%$  of cells CD30+

## Conclusion

CBCL may be expressed in CD30 causing diagnostic confusion. CD30 expression is most likely in PCFCL and is associated with favorable clinical features.

"No Financial Disclosures"