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CUTANEOUS LARGE B CELL LYMPHOMA. CASE PRESENTATION

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CONTEXT

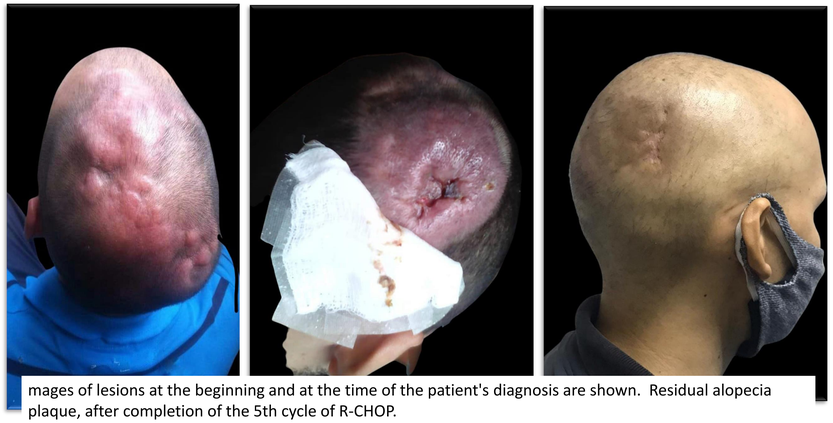
Primary cutaneous large B-cell lymphoma (PCLBCL) is a rare non-Hodgkin lymphoma primarily affecting the skin without initial systemic involvement. Its occurrence on the scalp poses unique clinical and histopathological challenges. Epstein-Barr virus (EBV) has been linked to various lymphomas, especially in immunocompromised individuals, and its association with PCLBCL on the scalp is of growing interest, providing insights into viral oncogenesis and potential therapeutic targets.

CASE PRESENTATION

A 17-year-old male presented with a year-long history of scalp inflammation and hair loss. He had no significant medical history. Physical examination revealed multiple erythematous nodules on the scalp and areas of fibrosis with moderate pain on palpation. Blood work-up was normal. Histopathological analysis of a scalp biopsy stained with hematoxylin and eosin revealed nodular and diffuse dermal infiltration by large neoplastic cells with vesicular, irregular nuclei and evident nucleoli, with an inflammatory infiltrate of lymphocytes and eosinophils, suggestive of diffuse large B-cell lymphoma. Immunohistochemistry revealed CD20: diffuse, strong positive immunolabeling in 100% of tumor cells; Ki-67: positive nuclear immunolabeling in 60% of tumor cells; BCL6: diffuse nuclear positivity; BCL2: focal positive immunolabeling of weak intensity; EBV: positive immunoreaction in 90% of tumor cells. CD30, MUM-1, and CD10 were negative. The final diagnosis was EBV-associated diffuse large B-cell lymphoma infiltrating the dermis. Imaging and bone marrow aspirate showed no systemic involvement. Treatment with rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP) was initiated, with 5 cycles administered every 21 days.



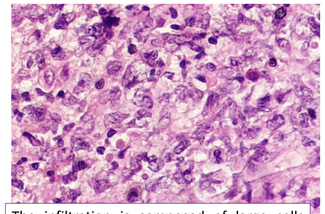
On the scalp, multiple erythematous nodules with a shiny surface and fluctuating sinuous paths are observed, with areas of fibrosis.



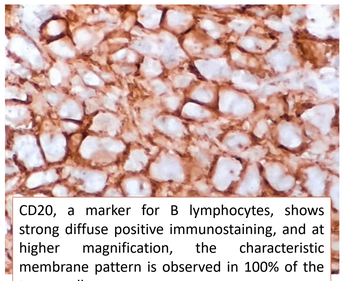
mages of lesions at the beginning and at the time of the patient's diagnosis are shown. Residual alopecia plaque, after completion of the 5th cycle of R-CHOP.



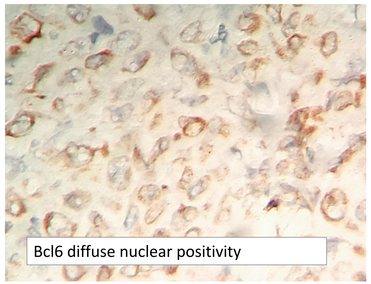
FOLLOW UP: The patient responded well, with significant clinical improvement and scalp recuperation after scar formation. At 24-month follow-up, the patient is asymptomatic and living a normal and productive life.



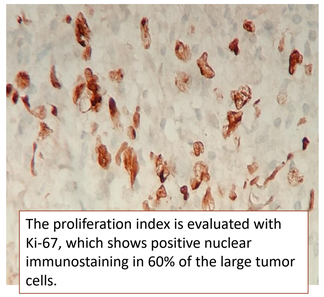
The infiltration is composed of large cells with vesicular and irregular nuclei, some with evident nucleoli, and an inflammatory infiltrate formed by lymphocytes and eosinophils



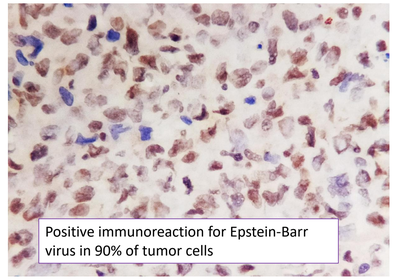
CD20, a marker for B lymphocytes, shows strong diffuse positive immunostaining, and at higher magnification, the characteristic membrane pattern is observed in 100% of the tumor cells.



Bcl6 diffuse nuclear positivity



The proliferation index is evaluated with Ki-67, which shows positive nuclear immunostaining in 60% of the large tumor cells.



Positive immunoreaction for Epstein-Barr virus in 90% of tumor cells

CONCLUSIONS

This case highlights the rare presentation of EBV-associated PCLBCL of the scalp in an immunocompetent adolescent. The diagnosis was confirmed through comprehensive histopathological and immunohistochemical analysis. Early recognition and treatment with R-CHOP chemotherapy led to satisfactory clinical outcomes. This case underscores the importance of considering EBV association in PCLBCL of the scalp, which can guide diagnostic and therapeutic strategies. Further research is warranted to explore the underlying mechanisms of EBV-driven lymphomagenesis and to refine treatment approaches for better patient outcomes.

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