

Plasmablastic Lymphoma in an HIV-Positive Patient with Paraproteinemia

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Introduction

Plasmablastic lymphoma (PBL), a variant of diffuse large cell lymphoma, is an aggressive tumor typically presenting as an oral cavity mass in HIV-positive patients. We report a case of a 39 year old female with recent diagnosis of HIV and PBL with an unusually prominent IgM monoclonal component and unusual involvement in the cervix.

Patient Demographics

The patient presented to the hospital complaining of bilateral lower extremity edema and pain. A lower extremity Doppler showed a popliteal mass. A CT scan of the abdomen and pelvis revealed bilateral ovarian masses. Her CA-125 was elevated at 646.5 U/mL. Concurrently, the patient was diagnosed with HIV and had a CD4 count of 16 cell/uL and PCP pneumonia. OB was consulted to evaluate the ovarian masses. A pelvic exam showed a cervical mass which was biopsied. A bone marrow biopsy was also performed which failed to show involvement. A skeletal survey did not show the presence of lytic lesions.

Surgical Pathology

The cervical biopsy showed ulceration of the epithelium which was replaced by a diffuse lymphoplasmacytic proliferation. The majority of the cells had a hyperchromatic, eccentric nuclei with prominent nucleoli and basophilic cytoplasm. A few mitotic figures were also noted. (Figures 1-4)

Immunohistochemical studies showed a population of cells that were positive for CD45, CD138, and CD79a; while negative for CD3, CD20, CD56 and EBER. Ki-67 was positive in 80% of the cells. Pancytokeratin, CK 7, CK20, and synaptophysin were negative. (Figures 5-8)

The morphology and additional studies were consistent with plasmablastic lymphoma.

A biopsy of the popliteal mass demonstrated a population of cells with similar morphologic and immunohistochemical properties as the cervical mass consistent with multifocal disease.

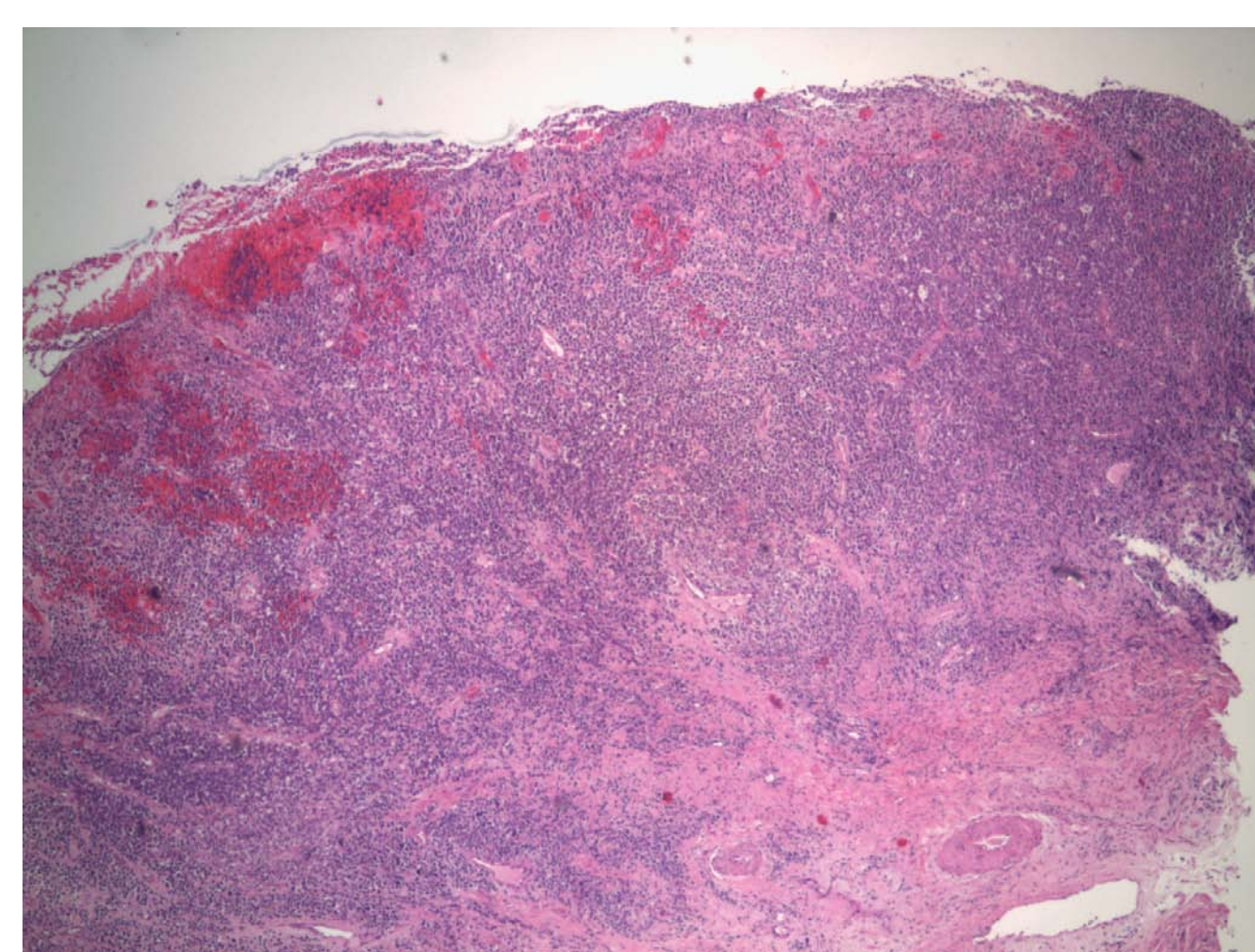


Figure 1: Cervix (4x), mucosal ulceration with diffuse proliferation of small cells

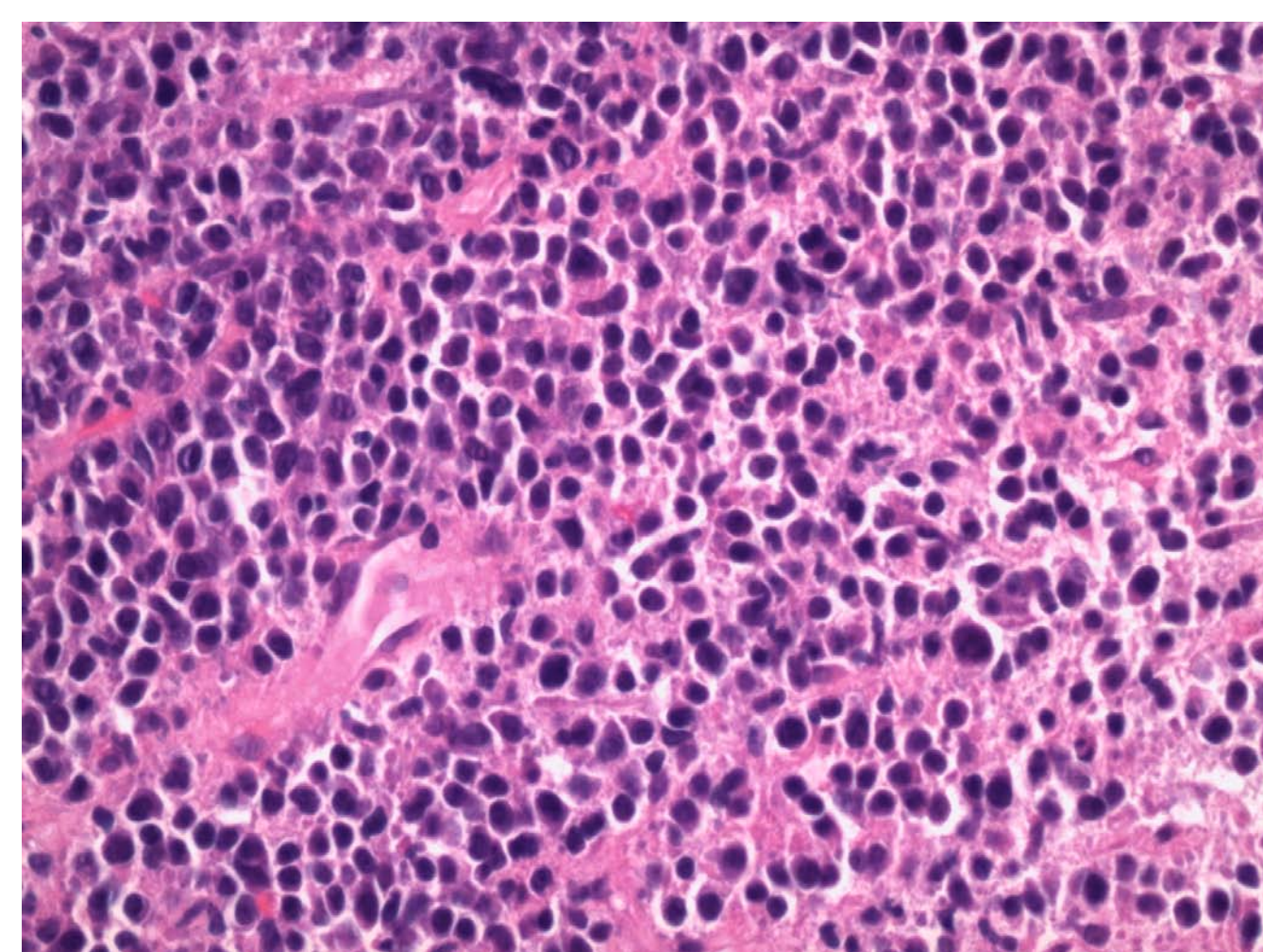


Figure 2: Cervix (20x), basophilic cytoplasm with eccentric nuclei

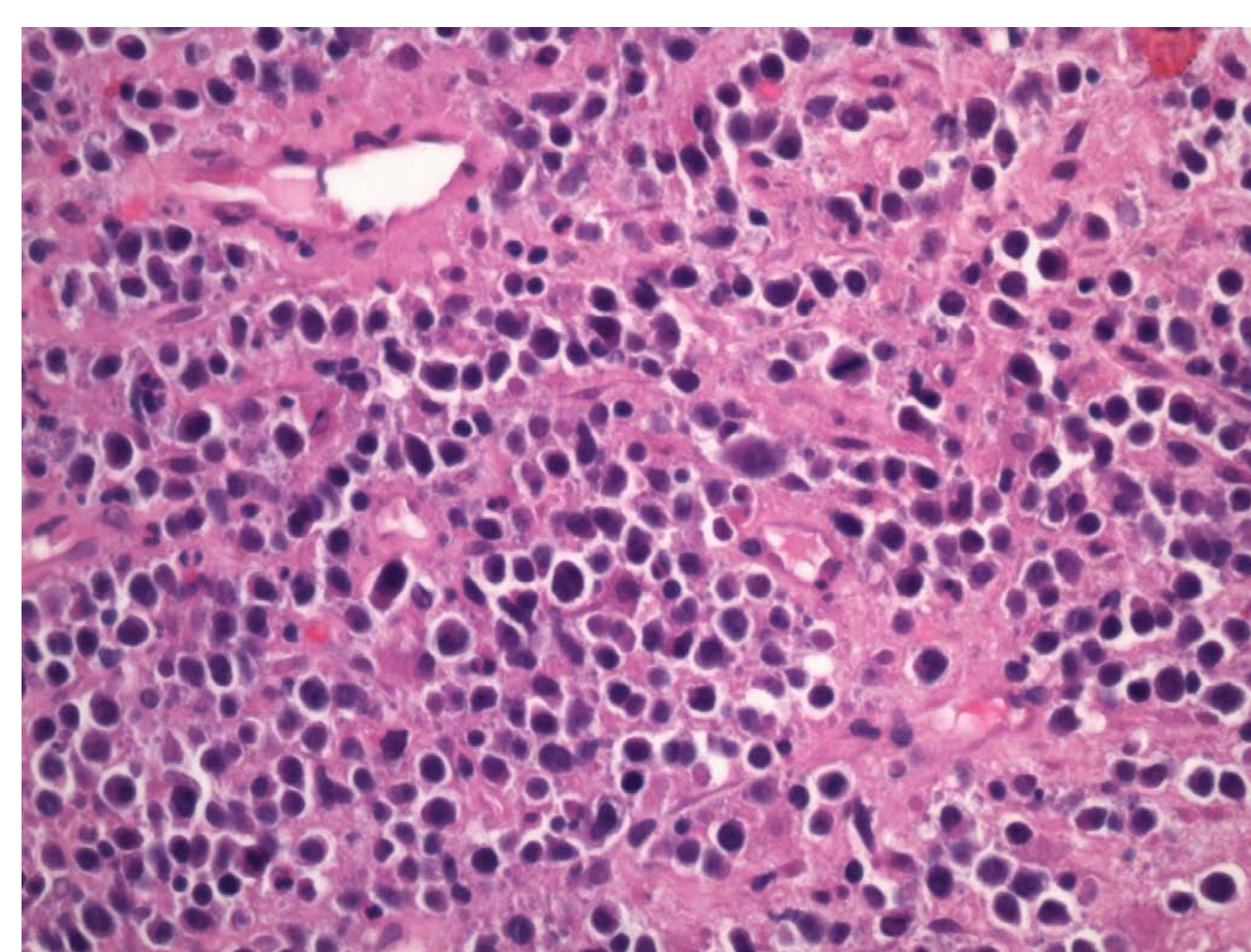


Figure 3: Cervix (40x), scattered mitotic figures with hyperchromatic nuclei

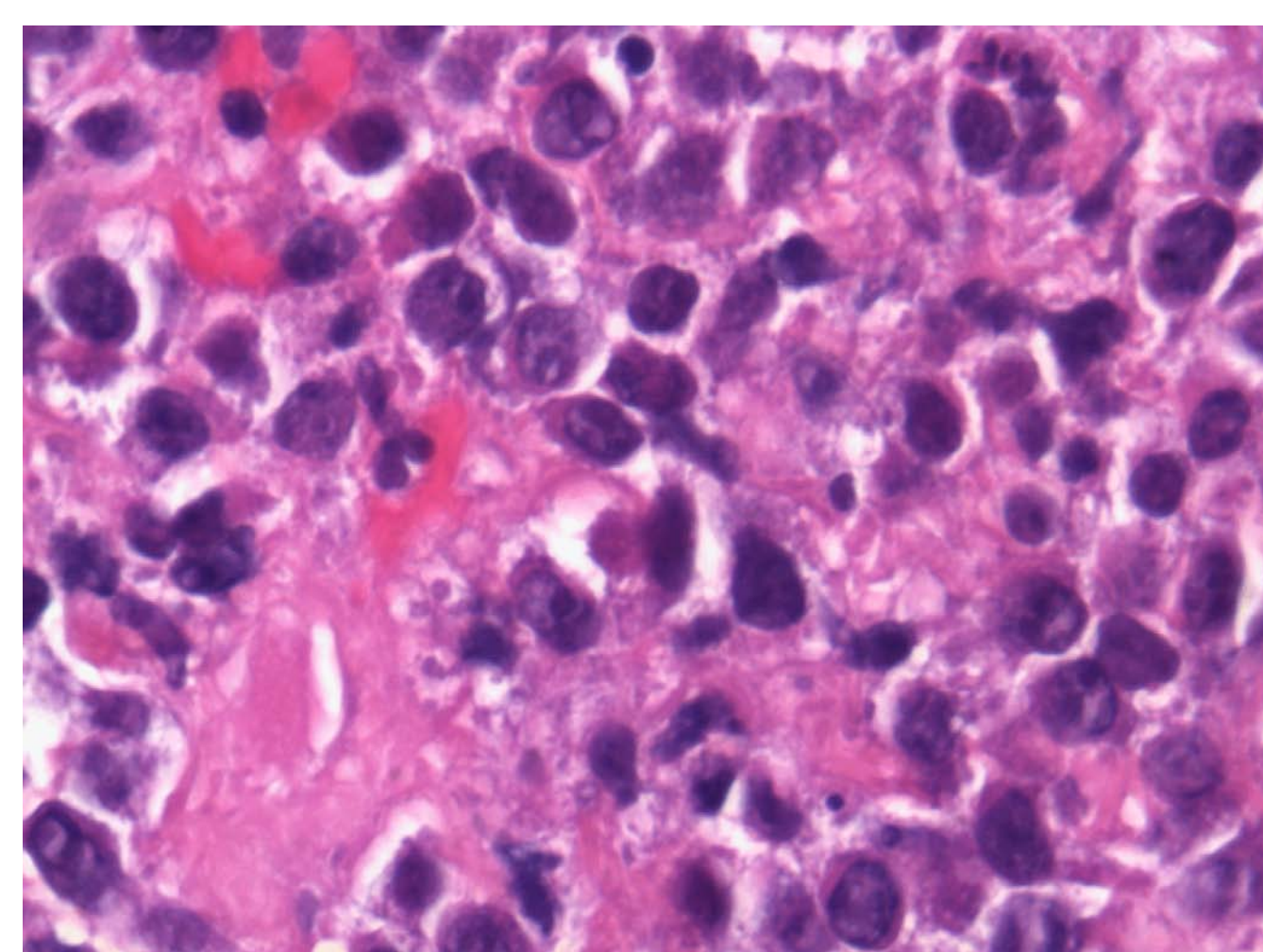


Figure 4: Cervix (100x), nuclei with prominent nucleoli

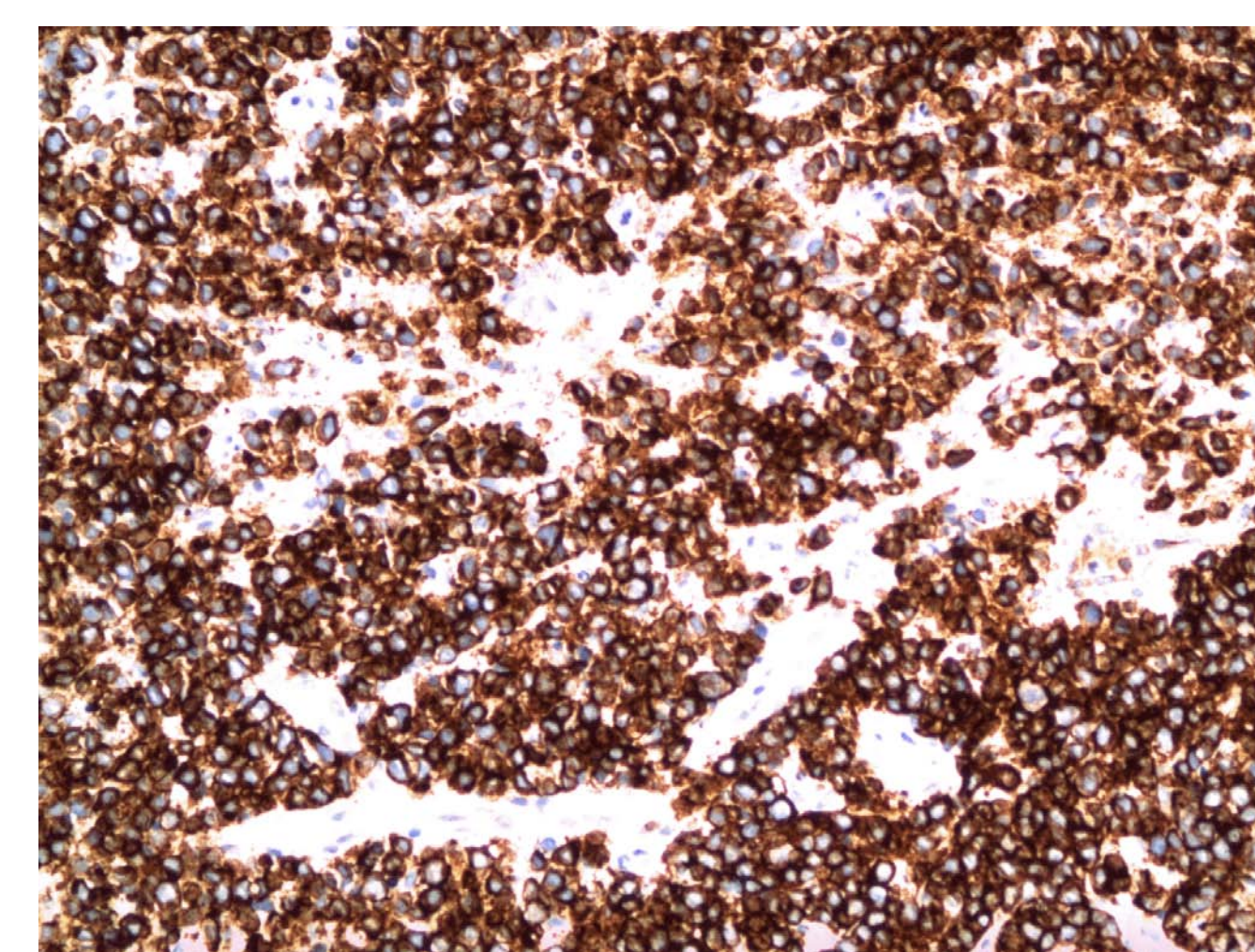


Figure 5: CD 138, positive membranous staining

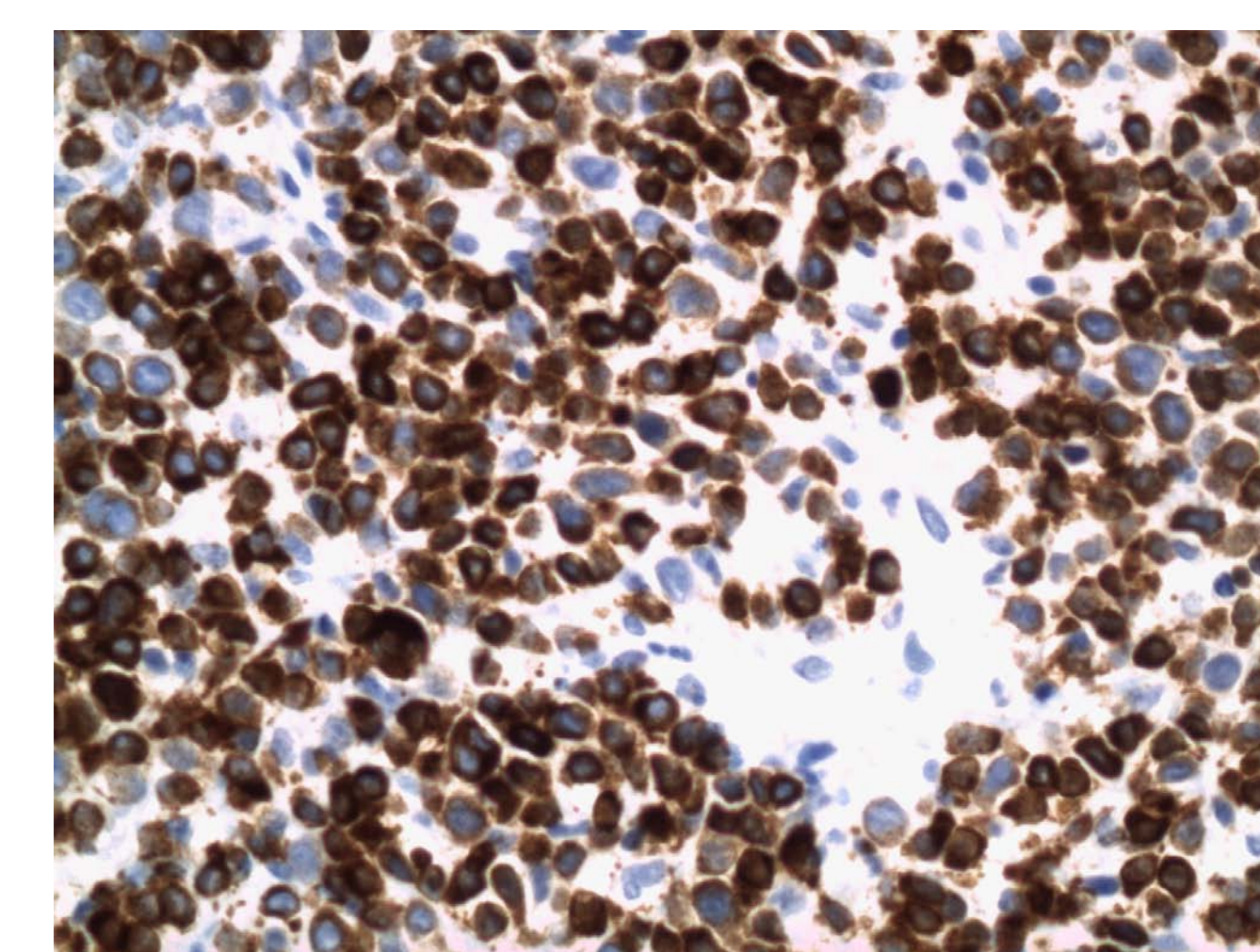


Figure 6: CD 79a, positive membranous staining

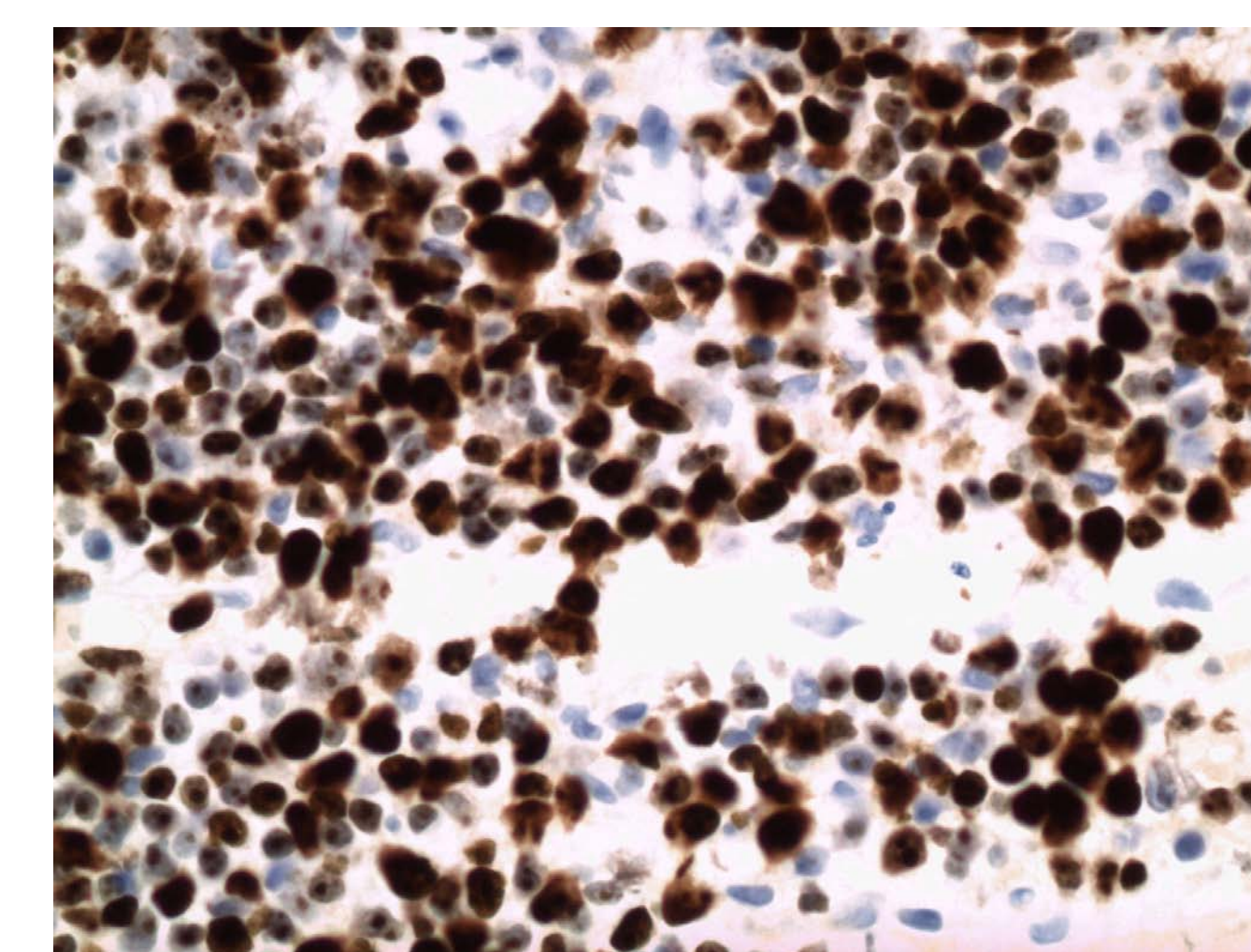


Figure 7: Ki-67, positive nuclear staining

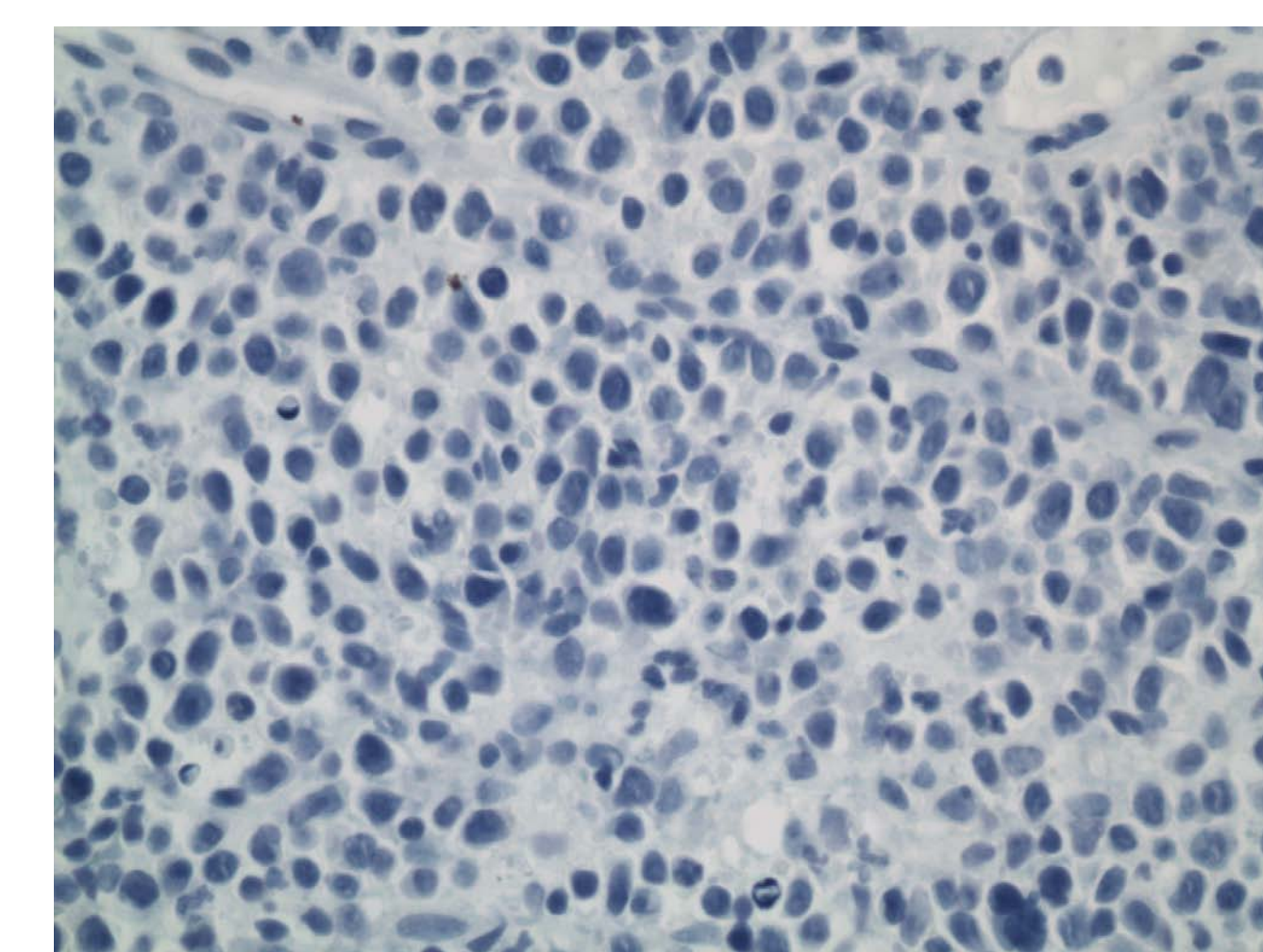


Figure 8: CD20, negative membranous staining

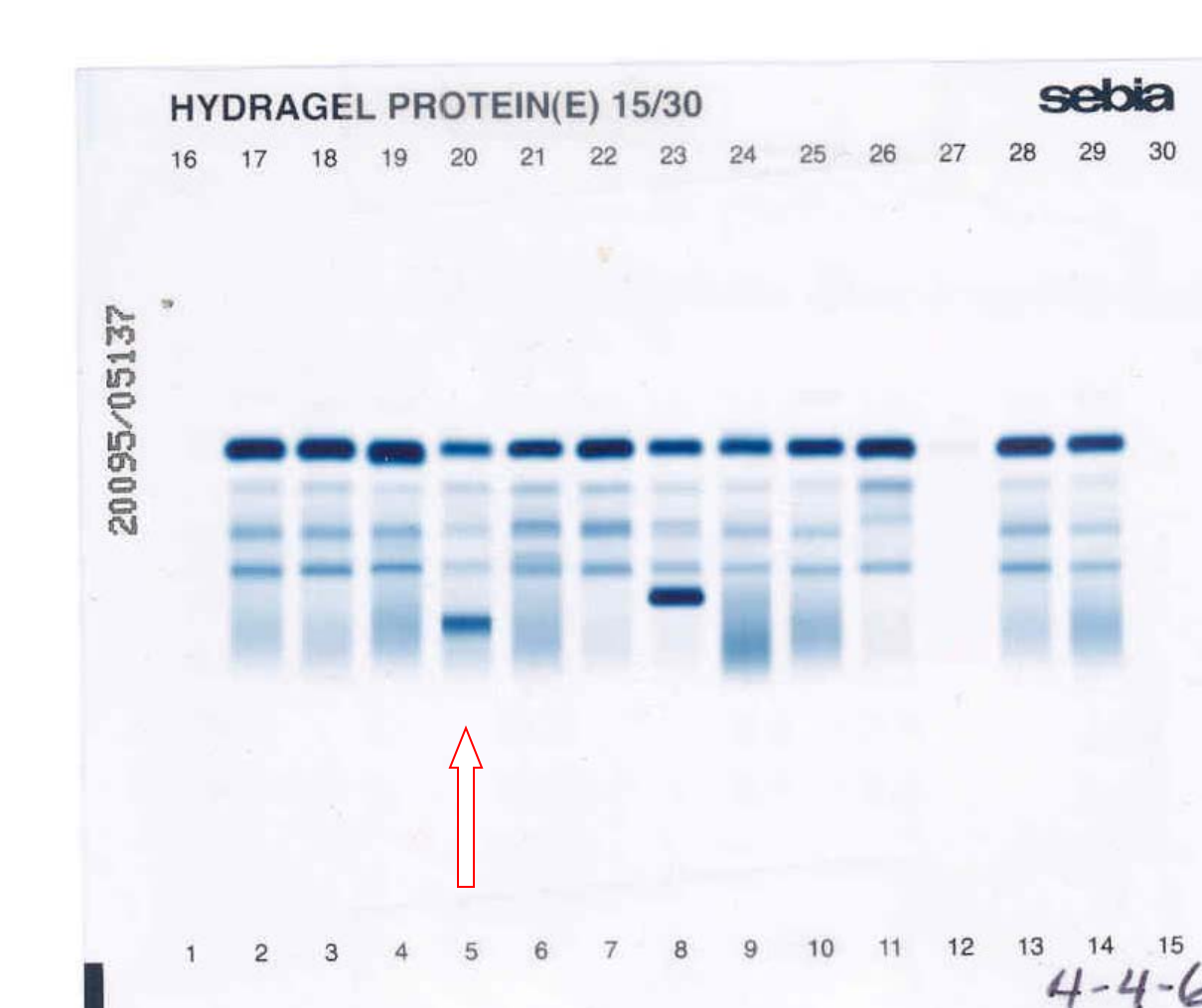


Figure 9: Serum protein electrophoresis, lane 5, prominent monoclonal band in the gamma region

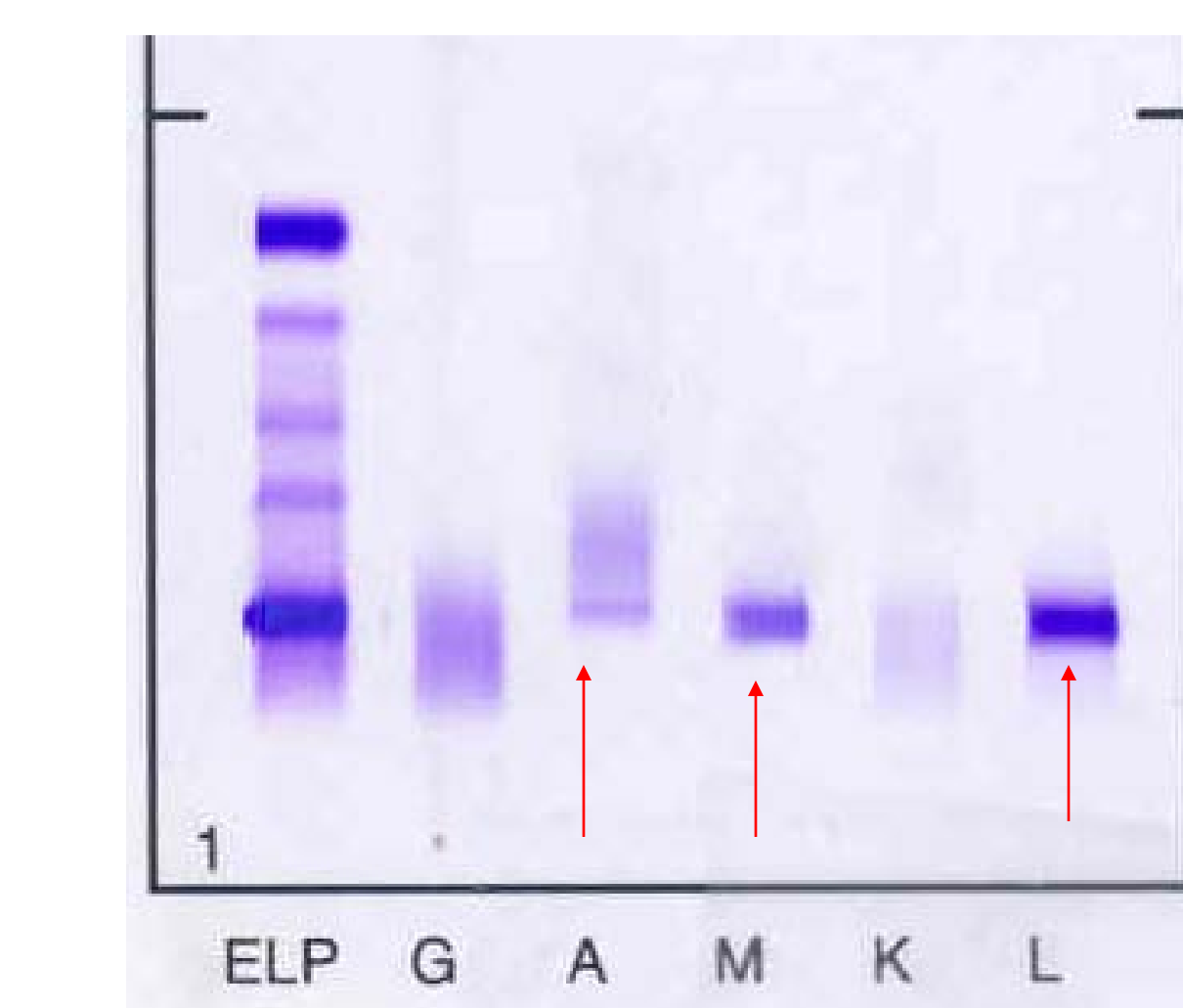


Figure 10: Serum immunofixation electrophoresis, biclonal gammopathy

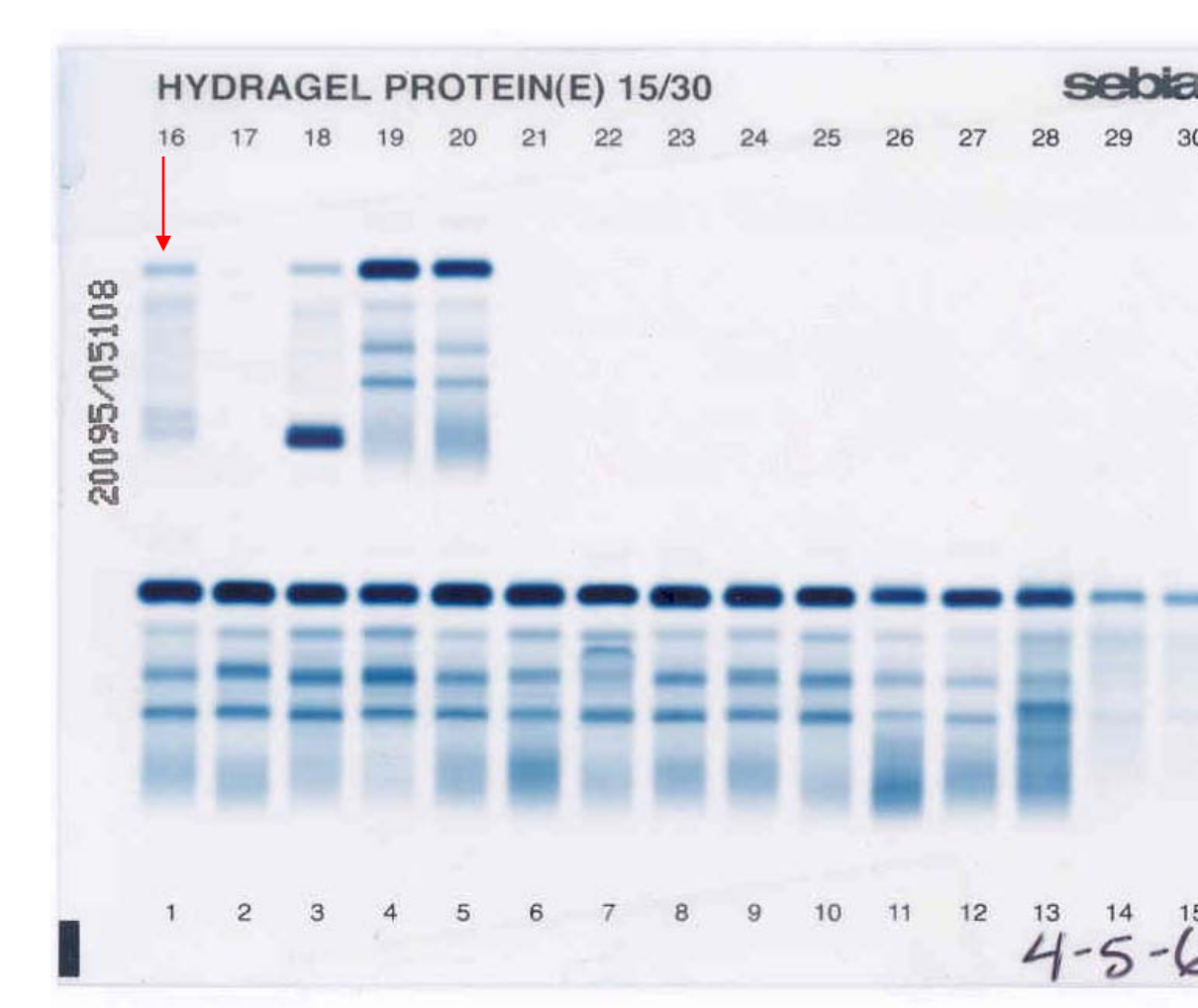


Figure 11: Urine protein electrophoresis: lane 16, two monoclonal bands in the gamma region

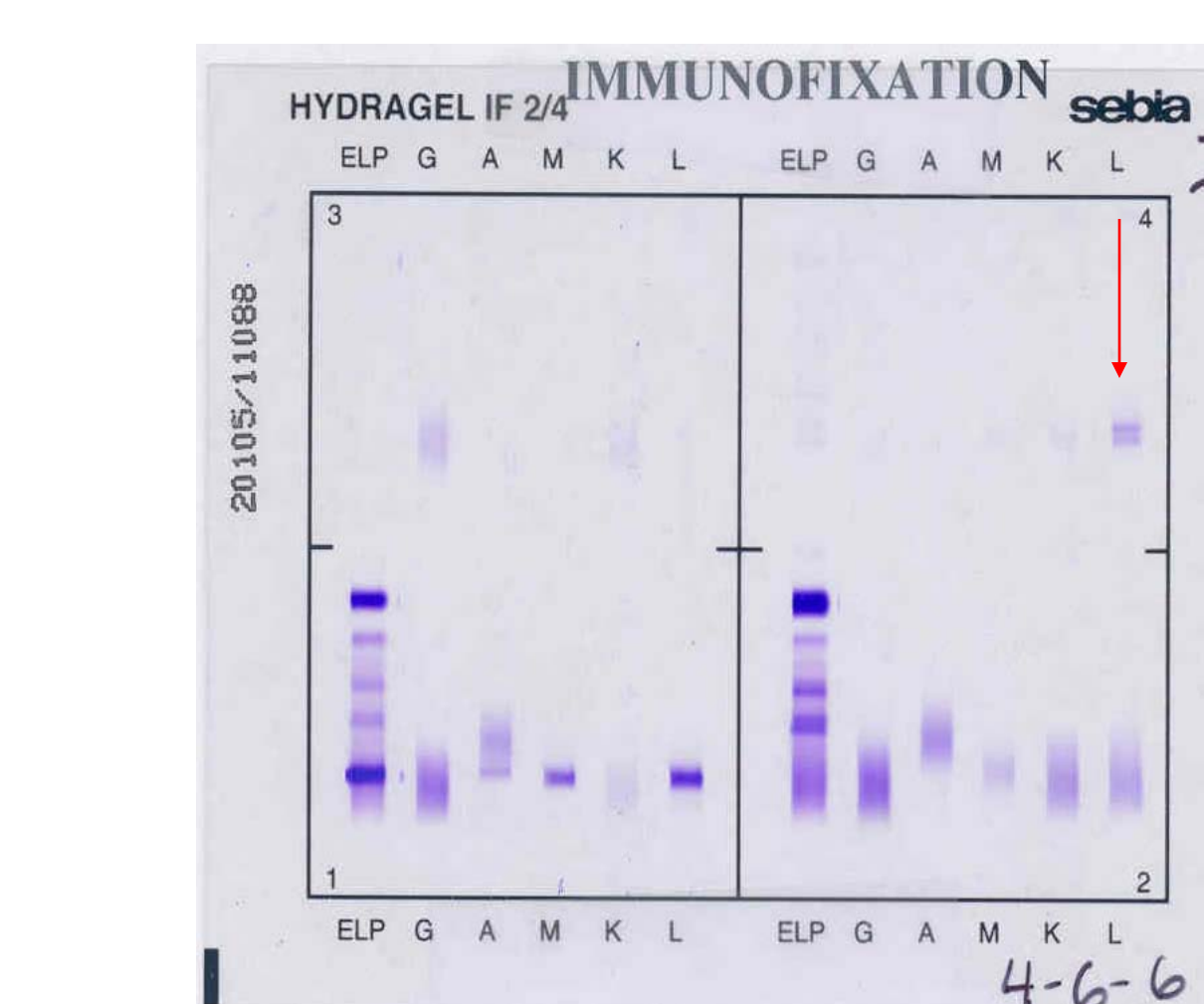


Figure 12: Urine immunofixation electrophoresis: box 4, free lambda light chains

Immunology

Serum protein electrophoresis (Figure 9) showed a prominent monoclonal band in the gamma region (3.80 g/dL) with suppression of the polyclonal gamma globulin background. The albumin level was significantly decreased. Serum immunofixation electrophoresis (Figure 10) showed a biclonal gammopathy of IgM-lambda and IgA-lambda isotypes and prominent IgM component. Urine protein electrophoresis (Figure 11) showed two distinct monoclonal bands in the gamma region with a total 24 hour paraprotein level of 0.3 g. Urine immunofixation electrophoresis (Figure 12) showed presence of free lambda light chains. The total serum IgM was significantly elevated (3.6 g/dl) while the serum IgA and IgG were within the normal range. The prominent IgM monoclonal gammopathy made the diagnosis of plasma cell myeloma unlikely. Plasma cell myeloma and plasmablastic lymphoma have similar morphology and immunohistochemical properties. PBL cases are typically positive for EBER (EBER is negative in this patient). However, EBER positivity can vary from 60-86% in cases of PBL.

Summary

We reported a case of a 39 year old female with recent diagnosis of HIV and PBL with an unusually prominent IgM monoclonal component and unusual location of involvement in the cervix. The prognosis of PBL is very poor with most patients surviving less than 1 year. The patient was treated with steroids for lymphoma and antiretrovirals for HIV. Her hospitalization was complicated by multiple infections, she also developed tumor lysis syndrome and subsequently expired.

References

- Colomo et al. "Diffuse Large B-cell Lymphomas with Plasmablastic Differentiation Represent a Heterogeneous Group of Disease Entities." *American Journal of Surgical Pathology*. Volume 28; Number 6, June 2004.
- Vega et al. "Plasmablastic Lymphomas and Plasmablastic Plasma Cell Myelomas Have Nearly Identical Immunophenotypic Profiles." *Modern Pathology*.