Hemepath Case 40: 11-Year-Old Male

HISTORY

An 11-year-old male is brought in by his father. The boy has experienced intermittent abdominal discomfort and nausea for the past week. Yesterday, the family was at the swimming pool when the father noticed a mass protruding from the boy's abdomen.

Physical examination reveals a pale, tired-looking boy in no apparent distress. Pinpoint hemorrhages are noted on his arms. A firm abdominal mass of 15 cm is palpated in the epigastric region. Fluid wave and shifting dullness are both present.

CBC

Hgb (g/L)	Low
MCV	N
Reticulocyte Count	Low
WBC	High
Plt	Low

DESCRIPTION OF SLIDE

Kidney Biopsy
There is an infiltrate of medium-sized lymphoid cells (see rectangles) in the interstitium of the cortex. Occasional glomeruli (see circles) and renal tubules (see arrows) are visible in the background. Patchy apoptotic debris and a high mitotic rate are also noted.

*** To see the slide annotations in Imagescope, click on VIEW, then ANNOTATIONS, and then on the "eye" icon adjacent to the word "Layers". In the "Layer Attributes" box, a brief description of the annotations is provided. You may also click on individual layer region (e.g. region 1) in the "Layer Regions" box to locate each annotation – this is especially helpful in identifying annotations when the slide is not zoomed in. ***

MORPHOLOGICAL DIAGNOSIS

Diffuse large B-cell lymphoma

DISCUSSION

This case shows a dense lymphoid infiltrate throughout the cortex of the kidney. Based on H&E staining, the case is morphologically consistent with a non-Hodgkin lymphoma.

Some of the features suggest Burkitt lymphoma: medium cell size and a high mitotic rate, as well as occasional apoptotic debris. In this case, special stains would show a mature B-cell phenotype (CD20+) with CD10 expression and a proliferative index (based on MIB-1 staining) of approximately 85%. In this case, cytogenetics showed no evidence of a *c-myc* rearrangement (i.e. no 8;14, 2;8, or 8;22). Therefore this case does not meet the diagnostic criteria for Burkitt lymphoma, and would instead be considered a diffuse large B-cell lymphoma. Pre-WHO, it would have been called "Burkitt-like", but this designation is no longer used.