GE 140560 034

Arkana Laboratories

10810 Executive Center Drive, Suite 100 Little Rock, Arkansas 72211
P 501.604.2695 | F 501.604.2699 | E support@arkanalabs.com

Patient Name:	**Vallandingham, Joseph**	**Pathology No:**	**S20-11019**
DOB:	6/29/1982	**Age:**	38
Gender:	M	**Date Reported:**	8/25/2020
Date Collected:	8/21/2020	**Date Received:**	8/22/2020
Physician(s):	Mohammed Shakaib, MD DuPage Medical Center Lockport, Lockport, IL		

********** **Amendment** **********

Specimen submitted:
By Mohammed Shakaib, MD
For Kidney, biopsy

DIAGNOSIS:

IgA Nephropathy, See Comment.

Comment: Oxford Classification score M0 E0 S1 T1 C0.

Chronicity Summary	
Total Glomeruli-	17
Global Glomerulosclerosis-	6
Segmental Sclerosis-	Present
Interstitial Fibrosis-	Moderate
Tubular Atrophy-	Moderate
Arterial Intimal Fibrosis-	Moderate
Arteriolar Hyalinosis-	Moderate

Reference: Oxford Classification of IgA nephropathy: an update from the IgA Nephropathy Classification Working Group. Kidney Int. 91(5): 1014-1021, 2017.

Clinical History:
The patient is a 38-year-old male with proteinuria. Serum creatinine is 1.1 mg/dL. Medical history includes polycythemia and anabolic steroid use.

Gross Description:
Received from DuPage Medical Center Lockport (Lockport, IL) are two specimen bottles; one bottle contains formalin and the other contains Michel's fixative. The bottles are labeled with the patient's name (Vallandingham, Joseph) and date of birth (6/29/1982).

Received in formalin are three pieces of tan tissue with fatty ends, measuring 0.7 x 0.1 x 0.1 cm, 1.4 x 0.1 x 0.1 cm (bisected) and 1.6 x 0.1 x 0.1 cm (bisected). Two pieces are submitted for electron microscopy and the remainder of the tissue is submitted in its entirety for light microscopy.

Received in Michel's fixative is one piece of tan tissue with bloody end, measuring 1.4 x 0.1 x 0.1 cm. The specimen is submitted in its entirety for immunofluorescence microscopy.

Microscopic Description:

LIGHT MICROSCOPY:

Three cores of renal tissue are submitted for light microscopic evaluation that consists of approximately 50% cortex. Up to 12 glomeruli are present for evaluation, three of which are globally sclerotic. Five glomeruli show

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areas of segmental sclerosis. Intact portions of the glomeruli show focal segmental mesangial hypercellularity. No endocapillary hypercellularity or cellular crescents are present. There is moderate interstitial fibrosis and tubular atrophy present involving approximately 30-40% of the renal cortex. A mild chronic inflammatory infiltrate is present within the fibrotic interstitium. The tubular epithelium shows focal cytoplasmic thinning. Tubular lumens contain focal hyaline protein casts without cellular reaction. Arteries show moderate intimal fibrosis. No arteritis is present. Toluidine blue-stained thick sections contain two glomeruli, one of which is globally sclerotic. The remaining glomerulus shows an area of segmental sclerosis.

Standard of care requirements for proper analysis of renal biopsies mandates serial sections, and PAS, Jones silver, trichrome and SMMT stains at multiple levels. PAS stains are used to evaluate various aspects of the glomerular, tubular, and vascular basement membranes. Jones silver stains are used to evaluate thickening, reduplication, "spiking" or "bubbling" of the glomerular basement membrane. Toluidine blue-stained sections highlight glomerular basement membranes, demonstrate unusual types of deposits, reveal details of tubular epithelial cells and aid in the analysis of vascular lesions. Masson trichrome stains are used to evaluate interstitial fibrosis and basement membrane deposits. The SMMT stain helps evaluate basement membrane changes, immune deposits and tubulointerstitial scarring. Controls are routinely run on all special stains and are verified for acceptability. A review of the technical quality of routine slides is made before results are reported.

IMMUNOFLUORESCENCE:

The sections are stained for IgG, IgM, IgA, C3, C1q, albumin, fibrinogen, and kappa and lambda light chains. The renal parenchyma submitted consists of 20% cortex. Three globally sclerotic and no intact glomeruli are present for evaluation. There is no significant extraglomerular staining. Kappa and lambda stain equally throughout the tubulointerstitium. Immunofluorescence is performed on the paraffin embedded tissue after protease digestion. Sections are stained for IgA, IgG, IgM, kappa, and lambda. The glomeruli show diffuse global mesangial staining for IgA (3+), IgM (1+), kappa (3+), and lambda (3+). IgG is negative in the glomeruli.

Positive and negative controls are run on all immunofluorescent stains and are verified for acceptability before results are reported. Internal antigens serve as positive controls.

ELECTRON MICROSCOPY:

Two blocks are prepared. Ultrastructural evaluation of a glomerulus reveals basement membranes that are uniform and are of normal thickness. Occasional mesangial electron-dense deposits are identified and accompanied by increase in mesangial matrix. No electron-dense deposits are present along the peripheral glomerular basement membranes. There is severe epithelial foot process effacement. The tubular basement membranes are without deposits.

Special procedures including immunofluorescence and electron microscopy correlate with the light microscopy findings.

Note: Some of the tests reported here may have been developed and performance characteristics determined by Arkana Laboratories. They have not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA does not require this test to go through premarket FDA review. This test is used for clinical purposes. It should not be regarded as investigational or for research. Arkana Laboratories is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical laboratory testing.

Physician/Physician's office called on 8/24/2020 at 4:16 PM Central.

Amendment:

8/25/2020: Patient's date of birth corrected.

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*I have reviewed the clinical history, the pertinent gross findings, all microscopic materials, discussed the case with the clinician when appropriate, and have rendered the final diagnosis.

Final Diagnosis performed by
Chris Larsen, M.D.
Electronically signed 8/24/2020 5:14:08PM

Amendment #1 performed by
Chris Larsen, M.D.
Electronically signed 8/25/2020 1:47:19PM