

Allograft Kidney Biopsy Template

1. Glomerulosclerosis
 - 1.1 Number of glomeruli (#) ()N/A
 - 1.2 Number globally sclerotic . . (#) ()N/A
 - 1.3 Segmental sclerosis ()YES ()NO ()N/A
 - 1.4 Management biopsy. ()YES ()NO ()N/A
2. Glomerulitis(g). ()0 ()1 ()2 ()3 ()N/A
3. Ti: Total Interstitial inflammation(i) . . . ()0 ()1 ()2 ()3 ()N/A
(check if present) ()Neutrophils()Eosinophils

- 3b. i-Banff = % inflammation with non-scarred areas as numerator & denominator
()0 ()1 ()2 ()3 ()N/A
- 3b. i-IFTA = % inflammation with scarred areas as numerator & denominator
()0 ()1 ()2 ()3 ()N/A
4. Intimal arteritis(v) ()0 ()1 ()2 ()3
()Not evaluable
5. t-Banff: Tubulitis(t) ()0 ()1 ()2 ()3 ()N/A

6. Arteriolar hyalin(ah). ()0 ()1 ()2 ()3
()Not evaluable
Nodular form ()YES()NO ()N/A
7. Chronic glomerular change (cg) ()0 ()1a ()1b ()2 ()3 (X)N/A
- 7b. Mesangial matrix increase (mm) . . ()0 ()1 ()2 ()3 ()N/A
8. Interstitial fibrosis on Trichrome stain (ci). . . . ()0 ()1 ()2 ()3 ()N/A
9. Tubular atrophy(ct). ()0 ()1 ()2 ()3 ()N/A
10. Vascular intimal sclerosis(cv) . . ()0 ()1 ()2 ()3
()Not evaluable
- 10b. Number of arteries with internal elastic lamina: (2) ()N/A
11. Other findings:
12. Diagnostic categories (Check as many categories as appropriate)
()KDARO: Normal
()KDAB: Acute/Active antibody mediated rejection:
()KDABD: Diagnostic: Needs (i) histologic injury, (ii) evidence of antibody-endothelial interaction, and (iii) donor specific antibody (g>0 and/or peritubular capillary>0, v>0) (C4d2/3 by IF and/or C4d>0 by IPEX, and/or g+ptc ≥2 for C4d negative ABMR)(in presence of TCMR/borderline change/infection g must be at least 1 to use g+ptc sum criterion)
()KDAB I: ATN-like – C4d +, minimal inflammation
()KDAB II: Capillary- margination, glomerulitis, and/or thromboses, C4d +
()KDAB III: Arterial – v3, C4d +

() C4d substituted by g+ptc ≥ 2 and g ≥ 1 (check mark if this criterion is used as substitute for C4d
() DSA substituted by C4d (check mark if this criterion is being used as substitute for DSA

()KDChAB-A: Chronic active antibody-mediated rejection:
Needs chronic tissue injury, evidence of antibody-endothelial interaction, and donor specific antibody (cg>0 and/or new onset CV &/or electron microscopy) (C4d2/3 by IF, and/or C4d>0 by IPEX, and/or g+ptc ≥2 if C4d negative)

() KDChAB: Chronic antibody-mediated rejection:
Term used when there is absence of evidence of current/recent antibody-endothelial interaction, but chronic tissue injury and DSA are present.

() KDC4Dst: C4d staining without evidence of rejection: Needs all three of the following criteria: (i) g=0, v=0, cg=0, TMA=0, AKI=0, (ii) (C4d2/3 by IF and/or C4d>0 by IPEX, and (iii) absence of borderline change or TCMR.

()KDARB: Borderline change (i1-3, t0-1) or (i0-1, t1-3), (v0)
() Acute rejection (specify g, i, t, v grades):
()KDAR1A: Banff Type 1A (i2-3, t2, v0)
()KDAR1B: Banff Type 1B (i2-3, t3, v0)
()KDAR2A: Banff Type IIA (i1-3, t0-3, v1)
()KDAR2B: Type 2B (i1-3, t0-3, v2)
()KDAR3: Type III (i1-3, t0-3, v3)

- KDCa-TCMR:chronic active TCMR (grade 1A, 1B, or II)
 - KDCa-TCMR IA: Ti>1, i-IFTA>1, t-IFTA = 2 exclude severely atrophic tubules & other causes i-IFTA
 - KDCa-TCMR IB: Ti>1, i-IFTA>1, t-IFTA = 3 excluding severely atrophic tubules & other causes i-IFTA
 - KDCa-TCMR IIA: Chronic allograft arteriopathy (arterial intimal fibrosis with mononuclear cell inflammation in fibrosis and formation of neointima)

- Interstitial fibrosis tubular atrophy (IF/TA)/ chronic allograft nephropathy:
 - KDCR1a: Mild, without cg and specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDCR1b: Mild, with cg and/or specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDCR2a: Moderate, without cg and specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDCR2b: Moderate, with cg and/or specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDCR3a: Severe, without cg and specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDCR3b: Severe, with cg and/or specific vascular changes (disruption of elastica and/or inflammatory cells in the fibrotic intima)
 - KDDR: Tubular and/or myocyte vacuolization c/w drug-associated changes.
 - KDAT: Acute tubular necrosis. KDDO: Donor disease.

Other:

- Recurrent disease (specify)
- Subcapsular injury Pyelonephritis Polyoma virus
- CMV PTLD
- Obstruction Reflux
- Vascular thrombosis (specify)
- Miscellaneous

13. PAS and MST glomerular basement membrane changes Yes No N/A

14. C4d a. Glomerular: minimal focal diffuse negative not done
 b. Peritubular capillaries: minimal focal diffuse negative not done
 c. Arteries: minimal focal diffuse negative not done

15. Plasma cells >15/hpf over 5 fields..... Yes No N/A

16. PTCis (< 10%, > 10% with 3-4, 5-10, >10/capillary)..... 0 1 2 3 N/A

8/23/99, 3/13/00, 7/11/00, 11/23/01, 7/8/03, 01/29/04 (C4d), 11/05/04, 10/04/06, 04/12/07 (C4d Method), 9/7/07 (PTC), 9/15/09 (AAMR, CAMR, IFTA), 12/30/13 (C4d negative) 1/28/14 (chronic tissue) 10/10/18 (i-IFTA)