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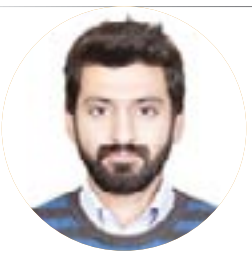

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C4d at Crossroads Between Post-Infectious Glomerulonephritis and C3 Glomerulopathy

Background: Proliferative glomerulonephritis is classified as immune complex-mediated glomerulonephritis (Post-Infectious GN) and complement-mediated glomerulonephritis (C3 glomerulopathy). Immune complex-mediated glomerulonephritis arises from glomerular deposition of immune-complexes (Igs) and C3 as a result of activation of classical and lectin pathways. C4d is produced as a result of activation of the CP/LP. On the other hand, C3 glomerulopathy results from activation of alternative pathway of complement. Clinically and histologically, both have similar features but their treatment and prognosis is quite different which makes their distinction of utmost importance.

Aim: To distinguish between PIGN and C3 glomerulopathy with the help of C4d IHC stain.

Materials and Methods: We studied 28 biopsies reported as Proliferative GN from January 2015 to January 2020. Clinical information, histological features and immunofluorescence patterns were analyzed. C4d IHC was performed on all the biopsies. Six known cases of Immune-complex mediated GN were selected to act as a positive control for C4d staining.

Results: Amongst 28 cases originally reported as Proliferative GN, 18 were labeled as Post-infectious GN and 10 as C3 glomerulopathy based on clinical information and serological findings. 13 of 18 (72.2%) cases of PIGN had mild to moderate (1-2+) C4d staining, 2 (11.1%) had strong (3+) staining and 3 (16.7%) cases were negative for C4d staining. In the 10 biopsies of C3 glomerulopathy, mild (1+) C4d staining was noted only in 3 (30%) biopsies. C4d had moderate to strong (2-3+) staining in the control group.

Conclusion: C4d IHC stain can be helpful in distinguishing PIGN from C3 glomerulopathy.

Biography

Shaarif Bashir is an anatomic and surgical resident doctor at a a top cancer centre in his country, He is currently working as a chief resident in Histopathology department at SKM Lahore. He has special interest in renal pathology and is an author of many related international publications in the field. He won the 2nd best poster award for his renal publication at the ESPC 2022 at Dubai this year. He is also a member of research committee of his department and acts a peer reviewer in various journals.

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