Bactericidal Activity of Serum of a Child with Focal Proliferative Glomerulonephritis

S.	Stanislaw	Jankowski ^a
A.	Anna	Galar ^b
K.	Kryspina	Grzybek-Hryncewicz ^a
M.	Maria	Walczuk ^a

^aDepartment of Microbiology and ^bDepartment of Children Nephrology, Academy of Medicine, Wrocław, Poland

Dr. Stanislaw Jankowski, Department of Microbiology, Academy of Medicine, P-50-368 Wrocław (Poland)

Dear Sir,

The complement (C) system of serum plays an important role in host defense against gram-negative bacterial infections. The bactericidal activity of sera from patients with pyelonephritis [1] or with chronic renal failure [2] was reduced in comparison with sera from healthy persons. The present study was designated to determine the bactericidal activity of serum of an 8-year-old girl suffering from focal proliferative glomerulonephritis. C-hemo-lytic activity (CH50) in the girl's serum was reduced to 2.6% of the level found in the sera of her parents. *Pseudomonas aeruginosa* (32 strains) and *Escherichia coli* (6 strains) freshly isolated from patients with urinary-tract infections were tested. It was shown, in a bactericidity test [3], that the serum of the girl was active only against 3% of the *P. aeruginosa* strains used. The sera of the girl's parents were active against 50% of these strains. Similar results were obtained in the case of *E. coli* strains. Depression of the level of C is a common feature of many types of nephritis and may be connected with a deficit of its component [4]. Lack or deficiency of C components may result from their binding into immune complexes, which could be found in the patient (e.g. C3 component granular deposits were identified in renal glomerules and localized in the mesangium and along the walls of the vascular loops by immunofluorescence test). Deposition of insoluble immune complexes in tissues can activate C, leading to assembly of the C5b-9 complexes. The authors think that the abnormal C concentration could cause the impaired bactericidal activities of the patient serum.

References

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