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Renal excretion of calcium in infants during chronic acid and bicarbonate load.

Serum calcium and renal excretion of calcium were measured in 29 normal infants on artificial feeding aged 3-12 months. They were studied before and during 5 days of ammonium chloride /15 infants/ or sodium bicarbonate administration /14 infants/. During the acid load the serum calcium increased and was followed on the 3rd day with significant elevation of the renal calcium excretion as well of calcium clearance. After sodium bicarbonate load in infants serum calcium did not differ from the control values, while the renal calcium excretion and calcium clearance significantly decreased. The evidence presented is consistent with the observation of the close relationship between the acid-base homeostasis and the renal excretion of calcium.

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Glycosaminoglycans and hydroxiproline urinary excretion in children with hereditary nephritis.

The hydroxyproline(HP) urinary excretion by Bergman method(I963) in modification of Djatchcova(I97I) and glycosaminoglycans (GAG) excretion by Bitter & Muir method(I966- with chromatographic analysis by Shiller(I96I) were studied in 35 children with hereditary nephritis and in 28 relatives of them. In control studies of 28children and 6 adultes the 24-hour-excetion was: HP - 69,7±2,5mg, GAG - 4,9±0,59 mg. Children with hereditary nephritis without deafness showed tendency to increase of HP excretion and HP/GAG in urine was more then in controls. HP excretoion in children with Alport's syndrome was low(I6,5±I,8mg/24h) but GAG excretion was high(8,2±0,8mg/24h).Some of the children with hereditary nephritis have mainly excretion of chondroitin-4,-6-sulphates, others - GAG's with low carbazol/orcinol. There were identical GAG patterns and simi lar stigmata of connective tissue disembriogenesis both in proband and some of his relatives. Onr may suppose that the changes of HP and GAG excretion depend not only on pathologic process but also on the genotype.

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C3 and C4 Concentrations in Acute Poststreptococcal Glomerulonephritis.

The purpose of this study is to present the results of C3 and C4 measurements in 21 patients with acute poststreptococcal glomerulonephritis (A.P.S.G.N.) in order to show the incidence of two possible mechanisms of complement activation suggested in recent studies. C3 and C4 were determined using commercially available immunodiffusi on plates (Behringwerke). In all the patients, the measurements were done during the first two weeks of the disease and followed up thereafter. Three patients had normal C3 and C4 concentrations. The other 18 patients showed an initial reduction of C3 levels and six of them also had an initial reduction of C4 levels. Clinical and laboratory parametres showed no differences between these three groups, which could explain the different patterns of C3 and C4 concentrations.

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Effects of the microbial flora on impaired and normal kidney function.

This work was conducted as a comparative study between kidney-traumatized a and normal control, germfree/GF/, antibiotic-treated/orally/AT/ and conventional/CONV/ rats. In kidney-traumatized animals the following trends were indicated. /1/Death in 3to5 days occurred 25% in GF and AT groups and 60% in the CONV groups. /2/2 to 4 days postoperation the RBF was found essentially unchanged in the GF and AT rats in comparison to normal controls, while it was 30% of normal in CONV rats. /3/ BUN was 4 times the normal in GF and AT animals and 28 times in CONV animals. /4/The ratio of Uosm and Seosm indicated that the concentrating ability of the kidneys was well maintained in GF and AT, it was virtually lost in CONV traumatized rats. /5/The clearance of i.v.administered,labelled thiourea into the urine and cecal lumen was markedly elevated in comparison to the low clearance of this label in CONV rats.

The results indicate that in the presently studied conditions of kidney trauma the absence or reduction of the intestinal flora is advantageous to the host.