

directly to increased vasoconstriction^(20,22).

While on the systemic level it has been suggested that blood volume depletion with subsequent reduction in the glomerular filtration rate can lead to Na retention⁽²³⁾. Moreover, there is a broad agreement that component of renin-angiotensin-aldosterone pathway are markedly reduced in women with preeclampsia⁽¹⁶⁾.

In this study, high serum sodium and low urinary sodium and their relation to low NO level in preeclampsia can be interpreted by understanding the role of NO in the regulation of sodium and fluid transport in the proximal tubule⁽²⁴⁾, NO functions as an inhibitor for the proximal tubular fluid and sodium reabsorption⁽²⁴⁾. In this sense, NO is a natriuretic agent⁽²⁴⁾. This is, in principle, consistent with the prominent role of NO in maintaining vascular tone and preventing increase in blood pressure⁽²⁴⁾. However, the final effect of NO on proximal tubular sodium reabsorption and its role in the overall fluid and electrolyte homeostasis may vary under different circumstances⁽²⁴⁾. The final effect of NO on proximal tubular reabsorption appears to depend on the concentration of NO and involve interaction with other regulatory mechanisms⁽²⁴⁾. This is mainly caused by the complex effect of NO on various targets, including hemodynamics, the renin-angiotensin system, and the tubular system⁽²⁴⁾. The above facts were confirmed by the positive correlation found between NO and sodium levels in both preeclamptics and control pregnant as seen in Figures: 1, 2, 3, and 4.

Biochemical changes in preeclampsia appear to be driven by a reduction in nitric oxide synthesis (as evident by low serum nitrite). This will, in turn, results in changes

involving electrolyte metabolism and appearance of the typical pattern which may cause vasospasm of eclampsia. These changes would include relative increase in serum sodium with a reduction in its urinary excretion. These manifestations are evident by the existence of positive correlations between the parameters studied. Further study of the relation between sodium excretion and NO production by renal tissues is required. Also, Study of the membrane Na^+ , K^+ ATPase and calcium pumps; as abnormalities of these pumps are also involved in the pathogenesis of preeclampsia.

References

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