Salty stories

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Salt (NaCl) is essential for life. It tastes good and makes sub-standard food more edible.

So what?

The worldwide problem is salt gluttony [1]. Per day, about 1 g of salt would be probably sufficient, 5 g are recommended by the WHO, but in fact, we consume around 10 g. On its way through our body, ingested salt spends some time in the circulation and more time in tissues awaiting excretion by the kidneys. The large daily salt load looks for transient shelters particularly in the extracellular space. Salt overload leads to cellular responses and, finally, to clinical manifestations. The current Special Issue “SALT” tries to supply comprehensive insights into the mechanisms involved.

We collected 16 views (reviews) on the psychological, physiological, pathophysiological, and clinical aspects of salt use/abuse.

1. Biopsychology of “salt hunger” and “salt deficiency”
2. Na^+ transduction in taste buds
3. Brain cells sense sodium
4. How cytoplasm senses osmolality
5. How Na^+ drives gene expression
6. How endothelial Na^+ channels work
7. How K^+ controls renal Na^+ excretion
8. How plasma proteases act on renal Na^+ transport

9. How Na^+ activates immune cells
10. The Mystery of dynamic Na^+ stores
11. How salt deficits affect life
12. How salt controls RAAS
13. How salt and sugar join (adverse) forces
14. How salt and aldosterone join (adverse) forces
15. How Cl^- participates in blood pressure regulation
16. How Cl^- transport affects vascular smooth muscle

Let us finish with a sentence taken from the work of the Swizz philosopher *Paracelsus* (from *Septem Defensiones*, anno 1538):

“Alle Dinge sind Gift, und nichts ist ohne Gift; allein die Dosis machts, daß ein Ding kein Gift sei” (all things are poison, and nothing is without poison; it is only the dose that stops a thing from being a poison).

Reference

1. Mozaffarian D, Fahimi S, Singh GM, Micha R, Khatibzadeh S, Engell RE, Lim S, Danaei G, Ezzati M, Powles J (2014) Global sodium consumption and death from cardiovascular causes. *N Engl J Med* 371:624–634

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