



MEDICAL SIGNIFICANCE OF CATIONS OF THE FIRST ANALYTICAL GROUP

<https://doi.org/10.5281/zenodo.10453117>

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ABSTRACT

Study of the importance of cations of the first analytical group in medicine.

Key words

Cations.

The importance of cations of the first analytical group in medicine. They include ions such as Na^+ , K^+ , NH_4^+ and Mg^{2+} . Sodium and potassium ions are present in all tissues of the human body and are part of physiological fluids. Sodium salts: NaCl , Na_3PO_4 and Na_2CO_3 extracellular fluids; it is found in blood plasma, lymph and digestive juices.

A 0.9 percent isotonic solution of sodium chloride is injected into a vein to moderate the osmotic pressure of the blood. 3, 5 and 10 percent hypertonic solution is also used for washing purulent wounds, compresses, gargling the throat when windy, applying surgical bandages, and taking a bath. Na^+ and K^+ as a means of impulse transmission to the nervous system and as an oxidizing agent of the living organism, normalizing the acidity of these cations in the stomach in table salt, and if there is a lot of Na^+ in the soil, then the soil is salty. Sodium fluoride NaF is used when the fluoride concentration in water is less than 0.5 mg/l and to prevent dental caries. The difference between potassium ions and sodium ions is that they are inside the cell and play an important role in some biochemical processes. A certain amount of potassium ions in the blood is necessary for the normal functioning of the heart.

The biological importance of NH_4^+ cation. The degree of purity of wastewater is determined depending on the presence or absence of ammonium cation. This method is of great practical importance in determining the level of ecology and environmental pollution. Waters containing mainly NH_4^+ ions are poisonous and have a strong impact on human health.



The biological importance of Mg²⁺ cation acts as a green pigment in the chlorophyll of plants. It is used as a cation participating in the process of photosynthesis.

ANNOTATSIYA

Birinchi analitik guruh kationlarining tibbiyotdagi ahamiyatini o'rganish.

Kalit so'zlar

Kationlar.

Birinchi analitik guruh kationlarining tibbiyotdagi ahamiyati . Ularga Na⁺ ,K⁺ NH₄⁺ va Mg²⁺ kabi ionlar kiradi. Natriy va Kaliy ionlari odam organizmidagi barcha to'qimalarda bo'lib, fiziologik suyuqliklar tarkibiga kiradi. Natriyli tuzlar: NaCl , Na₃PO₄ va Na₂CO₃ hujayradan tashqari suyuqliklar, qon plazmasi, limfa va ovqat hazm qiladigan shiralarda bo'ladi.

Natriy xloridning 0,9 foizli izotonik eritmasi qonning osmotik bosimini mo'tadillashtirish uchun venaga yuboriladi. 3, 5 va 10 foizli gipertonik eritmasi esa yiringli yaralarni yuvish, kompress qilish ,shamollaganda tomoq yo'llarini chayish, xirurgik bog'lamalar qo'yish hamda vanna qabul qilish uchun ham qo'llaniladi. Na⁺ va K⁺ asab , nerv tizimiga implus uzatish vosita sifatida va tirik organizimni oksidlovchi qaytaruvchi sifatida, osh tuzi tarkibida oshqozonda ham bu kationlarning kis-lotaligini narmallashtirishda, tuproq tarkibida esa Na⁺ ko'p bo'lsa sho'rhok tuproq bo'ladi. Suvda ftor kantsentratsiyasi 0,5 mg/l dan kam bo'lganda va tish karisining oldini olish uchun natriy ftorid NaF ishlatiladi. Kaliy ionlarning natriy ionlaridan farqi shundaki, ular hujayraning ichida bo'ladi va ayrim biokimyoviy jarayinlarda muhim rol o'ynaydi. Qonda ma'lum miqdordagi kaliy ionlarning bo'lishi yurakning mo'tadil ishlab turishi uchun zarur .

NH₄⁺ kationining biologik ahamiyati.Ammoniy kationi bor yo'qligiga qarab oqava suvlarning tozalik drajasi aniqlanadi. Bu usul ekologiya va atrof muhitni isloslik drajasini aniqlashda kata amaliy ahamiyatda egadir. Asosan NH₄⁺ ionlari bor suvlar zaharli bo'lib, inson salomatligiga kuchli ta'sir ko'rsatadi.

Mg²⁺ kationining biologik ahamiyati . O'simlarning xlorofil tarkibida yashil pigment vazifasini bajaradi. Fotosentiz jarayonida qatnashuvchi kation sifatida qo'llaniladi.

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