

Symptomatic Syndrome of Inappropriate Antidiuretic Hormone Secretion Treatment, A Review on Some Important Clinical Notes



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Abstract

Syndrome of Inappropriate Antidiuretic Hormone Secretion or SIADH is a syndrome in which the excessive release of the antidiuretic hormone would cause returning the water which is solute-free to the venous circulation by the kidney tubules. Symptomatic SIADH treatment should be done in the affected patients. This brief review tries to point out some important notes in the treatment of symptomatic SIADH.

Keywords: Syndrome of Inappropriate Antidiuretic Hormone Secretion; SIADH; Symptomatic; Treatment; Important Clinical Notes

Body

Syndrome of inappropriate antidiuretic hormone secretion or SIADH is a syndrome in which excessive secretion of the antidiuretic hormone would cause the kidney tubules to return the water which is solute-free to the venous circulation. Such excessive release of the antidiuretic hormone may be done by the posterior pituitary or another abnormal source which is not related to the pituitary gland. There are various causes for the occurrence of the syndrome of inappropriate antidiuretic hormone secretion including the central nervous system diseases, lung diseases, cancers, inherited pathologies, various drugs and chemicals and other conditions which can be transient in their nature. The signs and symptoms of the SIADH can be various and occur in different body systems like the neurologic, muscular, respiratory, skeletal, and gastrointestinal systems. Based on the duration, severity and the presence of the symptoms, treatment of the SIADH would be done. In the treatment of the SIADH, it is important to consider risks and benefits and the clinician should always consider the balance between the delayed treatment approach and rapid or extreme one.

Delayed treatment may cause the patient to develop dangerous neurological problems which are progressive in their nature and may lead to death and rapid or extreme treatment, again may lead to other dangerous and deadly neurological problems. Deadly neurological deterioration in delayed treatment and osmotic demyelination in rapid or extreme treatment are

the examples of such catastrophic events. So, the clinician should always consider the risks and benefits between delayed and rapid or extreme treatment strategies. In the patients with symptoms who have hyponatremia in a severe form and for a period of less than 48 hours, treatment should be started to increase the level of the sodium ion. Such an increase should be made sufficiently and by considering the balance between avoiding complications and preventing neurological problems [1,2].

There are various recommendations and controversies in selecting the best treatment strategy which explaining them is beyond the scope of this review. The acceptable strategy for treatment of a hyponatremia which has been developed in recent 48 hours, is administering hypertonic saline meaning three percent NaCl at rates to increase the concentration of the sodium ion in the serum of the patient by one to two millimole per hour to reach the goal of total correction of four to eight millimoles per liter during the first day.

Although as already have mentioned that there are various controversies in the treatment strategies of SIADH, but it is almost acceptable that in case the patient has hyponatremia and is in the period of less than 48 hours, this correction strategy is safe and effective. Safety would be to prevent the development of neurological problems and the competence would be to treat possible neurological problems which may already have been developed.

Chronic hyponatremia which is not accompanied by any symptoms can be treated with water intake restriction and employing medications including demeclocycline or tolvaptan. Discussing more about asymptomatic SIADH is beyond the scope of this review.

During the treatment of the symptomatic SIADH, paying enough attention to the patient's symptoms and close monitoring of the serum ions levels, specifically sodium ions, is mandatory. The serum level of the sodium ion should be closely monitored, preferably every two to four hours. Specifically neurological examination of the patient during treatment should be done frequently and any changes in the neurological status of the patient should be of notice. It is important to search for possible underlying causes of the symptomatic SIADH either [3,4]. In case of the presence of any abnormality in the potassium ion level like hypokalemia during the treatment of the patient with SIADH and hyponatremia, the potassium ion level abnormality should be treated aggressively. Also, in case the patient does not have enough diuresis and fluid retention exists, Furosemide can be administered. In case the level of the sodium ion is increasing rapidly during treatment, administration of the five percent dextrose in water should be done. It is the same when the patient who is under treatment shows the signs of osmotic demyelination syndrome. In this case all the administered fluids which include sodium ion in them should be ceased and again, five percent dextrose in water should be administered quickly until the level of the sodium ion would temporarily be decreased.

Treatment of the symptomatic SIADH requires close monitoring of the patient and paying enough attention to the patient's condition during treatment [5].

Conclusion

It is important for the clinicians to have knowledge about the treatment of the patients with symptomatic SIADH to approach the affected patients with more precision at the bedside. During the treatment of the symptomatic SIADH, close monitoring of the patients is of great importance.

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