

Determinants of the sensation of thirst in terminally ill cancer patients.

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Abstract:

While the sensation of thirst causes severe distress for a certain proportion of cancer patients in the terminal stage, the factors contributing to this symptom have not been established. To clarify the association between sensation of thirst and medical factors, especially dehydration, a cross-sectional observational study was performed on terminally ill cancer patients receiving inpatient hospice care. On admission to a palliative care unit, 88 consecutive patients underwent blood sampling and were requested to rate the intensity of thirst on a visual analogue scale (VAS). Physicians prospectively evaluated factors that might potentially be contributing to the symptom. The mean VAS score for thirst was 5.0 ± 2.8 , and 18% of the patients complained of severe thirst with a VAS score of = 8. No significant correlations were observed between the VAS score for thirst and the values of total protein, blood urea nitrogen (BUN), creatinine, sodium, osmolality, hematocrit, atrial natriuretic peptide (ANP), and biochemical dehydration defined by the levels of BUN, creatinine, sodium and osmolality. On the other hand, dehydration defined by ANP level ($= 15 \text{ pg/ml}$), hyperosmolality ($= 300 \text{ mosmol/kg}$), gastrointestinal cancer, survival, performance status, oral intake, vomiting, and stomatitis were significantly associated with the severity of thirst. In addition, mouth breathing and opioids were determined to be a potential clinical cause of severe thirst when a retrospective chart review was carried out. In conclusion, sensation of thirst is a frequent symptom in terminally ill cancer patients and is associated with dehydration, hyperosmolality, poor general conditions, stomatitis, oral breathing, and opioids. Careful assessments and treatment of underlying causes is important to alleviate patients' distress.

Comments:

Strengths/uniqueness: This is a cross-sectional observational study that involved prospective collection of data. Use of atrial natriuretic peptide (ANP) to assess biochemical dehydration has received little attention in the palliative care literature to date.

Weaknesses: The authors acknowledge many of the limitations including the selective Japanese cancer population, the exclusion of subjects with poor functional status, relying on a non-validated method (visual analogue score of thirst) to determine the main outcome of the study. Furthermore, the factors contributing to thirst that were evaluated in this study are likely not exclusive.

Relevance to Palliative Care: This study clearly identifies an association between sensation of thirst and biochemical dehydration. It would be interesting to see if these findings are replicated in other

cancer populations other than that of Japan. It would also certainly be of interest to conduct further studies using ANP levels as markers of dehydration.