BACKGROUND

Thirst is a common source of distress in the seriously ill. This Fast Fact reviews thirst in patients with serious illness. See Fast Fact #182 on causes and treatment of dry mouth.

PHYSIOLOGY

Thirst is the desire to drink fluids in response to a water deficit. Social customs, dry mouth, accompanying food intake, fluid availability, and palatability all serve as cues to drink. Seriously ill patients encountered by hospice and palliative care clinicians are at risk for thirst due to dehydration, electrolyte disturbances, hypotension, xerostomia, and immobility which can impede access to water. Patients with heart failure (HF), with end stage renal disease (ESRD), on mechanical ventilation, and taking certain medications (e.g. anti-hypertensives, tolvaptan, diuretics, or SSRIs) are also at increased risk. While opioids cause xerostomia, whether or not they cause thirst is controversial (1,2).

THIRST VS. XEROSTOMIA

Thirst is the desire to drink, while xerostomia is subjective or objective dry mouth. While xerostomia can contribute to thirst, not all patients with dry mouth experience thirst. Similarly, thirsty patients may not have xerostomia present. Research studies often use xerostomia as a surrogate for thirst, making it difficult to evaluate the prevalence and treatment efficacy for either symptom independently. It is important that clinicians evaluate for xerostomia or thirst as independent symptoms and determine if reversible causative factors are involved.

MEASUREMENT

In clinical and research settings, thirst is self-reported and has high individual variability. There is no consensus on the best way to measure the frequency, intensity, quality and distress of thirst. Unidimensional severity scales and a 6-item Thirst Distress Scale have both been used (3).

THIRST IN DYING PATIENTS

Around 80-90% of dying patients report significant thirst (4,5). Given its high prevalence, providers should routinely assess for thirst among dying patients who are able to report the symptom. The use of artificial or medically-assisted hydration to alleviate symptoms of dehydration amongst the terminally ill remains controversial. The concern that dehydration-related symptoms, including thirst, can cause discomfort is weighed against the concern that iatrogenic over-hydration can lead to pain and dyspnea from fluid retention. Studies of thirst in dying patients conclude there is little relationship between artificial hydration and thirst (5-8). Instead, daily oral care and sips of oral fluid administered for comfort can improve thirst (5-9) and should be routinely offered (see Fast Fact #133). Concerned family and friends may be distressed that their loved one is experiencing thirst at the end of life, which can prompt requests for artificial nutrition or hydration. While these requests should be considered on a case by case basis, reassurance that artificial hydration is unlikely to alleviate thirst and comes with significant risks should be provided.

PATIENTS WITH ESRD

Thirst and xerostomia are associated with higher inter-dialytic weight gain (IWG) which in turn increases cardiovascular morbidity and mortality (10,11). Increasing the frequency of dialysis from three times per week to daily is the only change to dialysis that has conclusively shown to reduce thirst scores, but this has obvious practical limitations (12). Angiotensin converting enzyme inhibitors have been associated with a reduction in thirst scores and IWG, but this benefit does not seem to last beyond six months (13-16). Frequent gum chewing and saliva substitutes used more than six times per day may alleviate thirst for at least several weeks after initiation (17-18).

PATIENTS IN THE ICU

Significant thirst has been reported in over 70% of critically ill patients (19). An “ICU bundle” of oral swab wipes, sterile ice-cold water sprays, and a lip moisturizer has been shown to decrease thirst intensity, thirst distress, and dry mouth in ICU patients (20).

PATIENTS WITH HF

Liberalization of fluid restrictions has been shown to decrease thirst in patients with chronic, stable HF and hospitalized patients with acute, decompensated HF (21-22). Importantly, these and multiple other studies did not show any change in mortality or readmission rates. In consultation with...
a patient’s cardiology team, liberalization of fluid restrictions should be considered in patients with HF and distressing thirst, along with addressing medications that are causing dry mouth (23).

**Summary** In patients reporting thirst, perform a clinical assessment to differentiate xerostomia and thirst and identify potentially reversible causes of either symptom. Available evidence suggests thirst is common in dying patients and is unlikely to be improved with artificial hydration especially in non-awake patients. Education, emotional support, oral care, and sips of fluid should be offered instead. Patients with ESRD, HF, and intubated ICU patients may have specific interventions which can improve thirst.

**References:**