Background The role of hydration in causing or alleviating suffering in advanced cancer is poorly understood. Bioelectrical impedance analysis (BIA) is an accurate validated method of assessing hydration status. Previous BIA research demonstrates significant relationships with hydration status, symptoms, and survival in advanced cancer. Further work is needed to study these associations in the dying.

Aim To evaluate hydration and its relationship with clinical symptoms in dying cancer people with cancer.

Methodology We conducted an observational study of people with advanced cancer in three centres (2 hospices and 1 hospital palliative care inpatient unit). We used an advanced consent methodology to conduct hydration assessments in dying people with advanced cancer who were dying. We recorded hydration status (via BIA Impedance index: Height – H2/Resistance – R), symptoms, physical signs, and quality-of-life assessments.

Results 125 people participated (males n=74 (59.2%), females, n=51 (40.8%). We repeated assessments in 18 (14.4%) participants when they were dying. Hydration status (H2/R) of the dying was not significantly different compared to baseline (n=18, M= 49.55, SD= 16.00 vs. M= 50.96, SD= 12.13; t(17) = 0.636, p = 0.53). Backward linear regression showed that ‘more hydration’ (increased H2/R) was associated with oedema (Beta = 0.514, p<0.001) and more pain (Beta = 0.136, p<0.001). ‘Less hydration’ (lower H2/R) was associated with female (Beta = -0.371, p<0.001), more anxiety (Beta = -0.135, <0.001), more physical signs (dry mouth, dry axilla, sunken eyes – Beta = -0.204, p<0.001), and more breathlessness (Beta = -0.180, p<0.014).

Conclusions Hydration status was associated with physical signs and symptoms in advanced cancer. No significant difference in hydration status was noted in dying patients compared to baseline. Further studies can use this work to develop tools to improve personalised hydration assessment, management and communication with patients and caregivers.