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"Aorta to IVC Ratio to Predict Severity of Pediatric Dehydration"

Gastroenteritis and dehydration are leading causes of morbidity and mortality globally, and common reasons for Emergency Department (ED) visits in the US. Clinical assessment of dehydration in children can be difficult and inaccurate. A potential safe and low-cost option to assess for dehydration in children is point-of-care ultrasonography. Given the portability and cost savings associated with point-of-care ultrasonography, it is increasingly becoming used as an adjunct to physical exam. Ultrasonography is commonly used in adults for volume assessment, but the data in children is lacking. A few small studies have shown promising results using inferior vena cava (IVC) assessment; however, determining an ideal cutoff measurement for the inferior vena cava at children of various ages has proven difficult. One potential solution to this is to use the aorta as a reference. The goal of this study is to use IVC to aorta cross sectional area as a determinate of dehydration in children. This will be compared to the degree of dehydration based on the child's weight after rehydration, as well as clinical gestalt and a validated dehydration score.