

A systematic literature review of the use of diuretics in cardiorenal syndrome (CRS)

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Background: CRS is an umbrella term for disorders involving both the heart and kidneys in which acute or chronic dysfunction in one organ may induce dysfunction in the other. Diuretics are one of the mainstay treatments of CRS, however at present there are no current guidelines for CRS and there is often hesitancy to prescribe diuretics due to fears of worsening kidney function. This review aims to identify if use of diuretics in CRS reduces all- cause mortality. Secondary objectives include assessing if diuretics reduce hospitalisations, preserve renal function, or increase serious adverse events.

Methods: Only studies on adults with CRS treated with diuretics, published in the English language and with a minimum population of 50 were included. A systematic search with specific terms was conducted via Medline, Embase and Cochrane databases. Over 1622 studies was identified. After screening and full text analysis, 12 studies were included within this review.

Results: Diuretics were found to be safe and effective if dosed appropriately. Loop diuretics at high doses were found to increase renal decline and risk of hospitalisation. However, the mineralocorticoid receptor antagonists and finerenone, when dosed appropriately, were found in some studies to significantly reduce all-cause mortality and hospitalisation. Finerenone was also shown to significantly reduce renal decline in some studies.

Discussion: Diuretics are a safe and effective option in the management of CRS if managed appropriately with close monitoring. Currently diuretics are one of the mainstays of treatments within CRS and will remain so, as alternative therapies such as ultrafiltration have not been shown to be as effective. Further research needs to be done within CRS, such as diuretics in combination with sodium glucose co-transporter 2 inhibitors.

