### Inclusion and exclusion criteria

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Presence of symptoms (dyspnea at rest or minimal exertion) and/or signs attributable to congestion (signs of congestion on chest radiography or presence of peripheral edema or ascites or jugular engorgement to 45° or crackles on lung auscultation)</td>
<td>• Life expectancy &lt; 6 mo due to other comorbid conditions</td>
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<tr>
<td>• NT-proBNP &gt; 1000 pg/mL or BNP &gt; 100 mg/dL at presentation</td>
<td>• Cardiogenic shock</td>
</tr>
<tr>
<td>• Serum creatinine ≥ 1.4 mg/dL on admission, with eGFR &lt; 60 mL/min/1.73 m²</td>
<td>• Diagnosis of ACS in the previous 30 d</td>
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<tr>
<td>• Intention to be treated with intravenous loop diuretics</td>
<td>• Pregnancy at the time of inclusion</td>
</tr>
<tr>
<td>• Participants or their legal representatives are willing and able to give informed consent for participation in the study</td>
<td>• Severe obstructive or restrictive lung disease</td>
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<tr>
<td></td>
<td>• Previously known stage V CKD (eGFR &lt;15 mL/min/1.73 m²) or patient included in the dialysis program</td>
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<tr>
<td></td>
<td>• Participation in another randomized trial at the time of inclusion</td>
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<td></td>
<td>• History of cancer within the last 2 y</td>
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<td></td>
<td>• Temperature ≥ 38°C or diagnosis of pneumonia</td>
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</tbody>
</table>

ACS, acute coronary syndrome; BNP, brain natriuretic peptide; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; NT-proBNP, N-terminal pro-brain natriuretic peptide.
### Table 2 of the supplementary material

Diuretic strategies

<table>
<thead>
<tr>
<th>Conventional strategy</th>
<th>CA125-guided strategy</th>
</tr>
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<tbody>
<tr>
<td>Loop diuretic dosage according to the presence of signs and symptoms of systemic congestion</td>
<td><strong>CA125-guided strategy</strong></td>
</tr>
<tr>
<td><strong>CA125 ≤ 35 U/mL</strong></td>
<td><strong>CA125 &gt; 35 U/mL</strong></td>
</tr>
<tr>
<td>- Initial dose of intravenous furosemide ≤ 80 mg/d</td>
<td>- Initial dose of intravenous furosemide &gt; 120 mg/d or 2.5 times the previous oral dose</td>
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<tr>
<td>- Removal of thiazides or chlorthalidone</td>
<td>- If CA125 &gt; 100 U/mL and/or concomitant unequivocal clinical signs of systemic congestion, dose &gt; 160 mg/d</td>
</tr>
<tr>
<td>- After 24 h: dose adjustment based on clinical and/or laboratory criteria</td>
<td>- After 24 h: an increased dose of intravenous furosemide and/or the addition of chlorthalidone 25-50 mg/d will be recommended if diuresis &lt; 3 L during the first 24 h</td>
</tr>
</tbody>
</table>

CA125, carbohydrate antigen 125.
Table 3 of the supplementary material

Sensitivity analysis according to UNa⁺ at baseline

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Exposure</th>
<th>SHR</th>
<th>95%CI</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>*HF-related mortality</td>
<td>UNa⁺ at baseline</td>
<td>0.49</td>
<td>0.29</td>
<td>0.83</td>
</tr>
<tr>
<td>*CV mortality</td>
<td>UNa⁺ at baseline</td>
<td>0.59</td>
<td>0.32</td>
<td>1.08</td>
</tr>
</tbody>
</table>

* Model covariates: age, sex, randomization variable, prior admission for acute heart failure, ischemic heart disease, systolic blood pressure, glomerular filtration rate, blood urea nitrogen, N-terminal pro-brain natriuretic peptide, and furosemide equivalent dose prior to randomization (mg/24 h). These competing risk regression analyses used the standard error adjustment (also called the Huber/White/sandwich estimator) to account for any clustering effects of patients within centers. CI, confidence interval; CV, cardiovascular; HF, heart failure; SHR, subdistribution hazard ratio; UNa⁺, urinary sodium.